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Considerations
ON
ABDOMINAL EMERGENCIES
IN WHICH OPERATIVE INTERFERENCE IS EITHER CONTRA-INDICATED OR RESTRICTED.

BY CHARLES F. M. SAINT, C.B.E., M.S., F.R.C.S.,
PROFESSOR OF SURGERY, UNIVERSITY OF CAPE TOWN; LATE HONORARY SURGEON, HOSPITAL FOR SICK CHILDREN; AND SURGICAL REGISTRAR, ROYAL VICTORIA INFIRMARY, NEWCASTLE-UPON-TYNE.

ABDOMINAL emergencies naturally fall into two categories, those requiring operative interference, and those in which such interference is not necessary. The operative interference may be judged an immediate necessity, or its postponement be considered advisable. The measures that should be adopted may be either radical or partial and palliative. It is well recognised that the operative part of emergency surgery ranks high in point of ease, and this very fact emphasises the paramount importance of judgment in this class of work; in other words, here the science of surgery outweighs the art. The surgeon's course of action depends on his survey of the case, and that should depend upon his diagnosis. It therefore follows that correct diagnosis is of prime importance, and the more exact and detailed it is the sounder must be the judgment and plan of action, the more complete will be the classification of the cases, and the greater the proportion not requiring operation. It is the easier, and at present more popular, course to operate, but this inevitably leads to a number of unnecessary abdominal operations. Nothing is more demoralising than to open an abdomen without discovering any pathological process, and no surgical progress can be expected if indiscriminate operating becomes the rule.

There are a few points which arise out of the above considerations, and which are worthy of note. A case left without operation, when against the opinion of others, is attended with much worry and a sense of greatly increased responsibility, and these are intensified by the latitude that such a course offers for difference of opinion. Further, should recovery occur, the diagnosis may remain uncertain.

Again, adequate stress must be laid upon the fact that, in a certain class of case, the surgeon's attitude will be controlled by the circumstance whether the patient is in hospital under his direct supervision or not. One may say, without hesitation, that the majority of cases are straightforward, and the certainty of the diagnosis is, for all practical purposes, unquestionable. There remains, however, a minority in which the diagnosis is difficult and uncertain, and in many of these the attitude of masterly inactivity is only justifiable if the patient be placed in such circumstances that an operation may be performed immediately if the necessity for it develops. Should these circumstances not be available, there may be no alternative to an exploratory operation.

In the following cases, from among the abdominal emergencies recently under the care of the writer in the Royal Victoria Infirmary, Newcastle-upon-Tyne, and in a private hospital, this last point must be kept prominently in remembrance.

Cases of Acute Appendicitis.

CASE 1.—The patient, A. B., was a small, plump girl of 14. She was admitted to hospital 3/10/19 suffering from an acute attack of abdominal pain of 48 hours' duration. Only a week previously she had been discharged from a sanatorium, where she had been under treatment for pulmonary tuberculosis during the past 18 months. She gave a typical history of being seized with abdominal pain, which was at first felt all over the abdomen, and which later settled in the right iliac fossa. She vomited two or three times during the first day, but not afterwards. There was no trouble with micturition, and there had been no diarrhœa. She had had no previous attack.

On admission, 48 hours after the commencement of the attack, she was flushed, and her tongue was moist and thickly coated with brown fur. Her general condition appeared to be good, and there was an abundance of subcutaneous fat, apparently the result of her sanatorium treatment. Her chest showed marked bronchitis, as evidenced by coarse râles, frequent coughing, and the expectoration of copious muco-pus. Temperature 103·8° F., pulse 120. Locally there was marked tenderness and rigidity, limited to the right iliac fossa, and a feeling of an indefinite mass in the same region, as of adherent omentum. On account of the condition of the chest it was decided to wait. Should the condition of the patient, either general or local, become worse operation would be performed by rectal or local anæsthesia, but should it improve no operative measure would be undertaken. In four hours the temperature had fallen to 102° and the pulse to 112, and by the next morning the temperature was 98·8° and the pulse 108. Subsequently two evening rises to 100·6° and 100·4° occurred, but the general condition and the local signs steadily improved, and by the end of a week her attack had entirely subsided and she was discharged from hospital well, except for her chest.

CASE 2.—The patient, C. D., a clerk of 20 years of age, was admitted to hospital 16/8/19 with an attack of abdominal pain of 24 hours' duration, vomiting, and temperature. The attack commenced on the evening before the night of admission, when she was seized with sudden pain across the abdomen, rapidly becoming localised in the right iliac fossa. The pain was accompanied by a great deal of vomiting. Apart from one similar attack 12 months previously, when she was about a fortnight in bed, she had always been well. On examination she was a well-nourished, robust-looking girl; her tongue was covered with a moist brown fur, and the breath somewhat fœtid. Temperature 99·8° F., pulse 86. Locally there was no distension of the abdomen. There was marked rigidity and tenderness, limited to the right iliac fossa, but no mass was felt, deep palpation being resisted. Diagnosis of acute appendicitis, with stricture, not perforated.

Operation.—The usual oblique incision was made in the right iliac fossa, and the abdomen opened. There was generalised tuberculous peritonitis, with numerous adhesions and miliary tubercles on all the gut examined. In addition there were many tuberculous mesenteric glands, most marked in the ileo-colic angle, and the wall of the cæcum showed extensive tuberculous disease. The appendix was found on the inner side of the cæcum; it was acutely inflamed and rigid, being like the small "erect penis," which has been described. There was an enlarged gland in its mesentery. It arose from the cæcum just at the site of reflection of the peritoneum on to the iliac fossa. The advisability of removing the appendix was by no means an easy problem. It could have been removed easily, but it was quite certain that part of the cæcal wall which would be employed in the process of inversion of the stump would be uncovered by peritoneum, and, further, the tuberculous condition of the cæcum would necessitate a very large inversion, if it proved feasible at all. Hence the probability of a fæcal fistula resulting, or, at the worst, a septic infection of the peritoneum in addition to the tuberculous one already present, was a

very likely event. The idea of removing the tuberculous cæcum with the appendix, either by a limited operation or a complete removal of the gut in the ileo-colic and right colic distribution, was not entertained on account of the diffuse tuberculous peritonitis. Further, the appendix showed no external sign of gangrene or of impending perforation. In consequence, it was decided to leave the appendix in situ and await developments, since, if the inflammation terminated in gangrene and perforation, the condition of affairs would be very much the same as would almost certainly follow appendicectomy, and the fæcal fistula and septic infection, which would probably have developed as a result, would have arisen in the natural course of events. The abdomen was, therefore, closed in layers in the usual way, without any interference with the morbid condition present. The patient made an uninterrupted recovery, the wound healed per primam, and no further trouble has been experienced.

CASE 3.—The patient, E. F., a married woman aged 29, was admitted to hospital 21/9/19 with an attack of abdominal pain and vomiting of eight days' duration. She was five months pregnant. The attack was typical of appendicitis, the pain commencing in the region of the umbilicus and later settling in the right iliac fossa. Some vomiting at the onset had not persisted and the raised temperature had diminished. There had been marked constipation since the commencement of the attack. On examination the general condition of the patient was fairly good, though she presented the appearance to be expected after a week's illness. The tongue was thickly coated and the breath foul. Temperature 100° F., pulse 108. The abdomen presented a mid-line swelling corresponding to the five months' pregnant uterus. There was some rigidity and tenderness in the right iliac fossa, not marked, and the patient asserted that palpation was much less painful than it had been. No mass was felt. The diagnosis of acute appendicitis was accepted, but in view of the improvement in both general and local conditions it was decided to leave her alone. Her constipation was treated and she went home in a few days. The presence of pregnancy here was the chief deterrent to operation, especially as the appendicitis was clearing up. The danger that the pregnancy might predispose to a further attack was considered less than that of production of a miscarriage by operation after the acute attack had subsided, so that no action was taken.

CASE 4.—The patient, G. H., a male aged 30, was admitted to hospital 3/8/19 suffering from "diarrhœa," following an attack of abdominal pain 12 days previously. The history was again typical of appendicitis, the pain being general at first, and later settling down in the right iliac fossa. There was vomiting at first, and some difficulty and pain in micturition. The general condition had improved the last few days, and the abdominal pain lessened, but patient had developed what he described as diarrhœa the last two or three days. On investigation this proved to be the frequent passage of a small quantity of mucus, but there had been no incontinence.

On examination his general condition was good, his tongue moist and furred. Temperature 100·2° F., pulse 100. Locally there was slight tenderness and rigidity towards the inner part of the right iliac fossa, and on deep palpation a mass could be felt on the right side of the pelvis, resonant on percussion. Per rectum this same mass could be reached high up with the tip of the finger and readily demonstrated bimanually. The diagnosis was that of acute appendicitis with perforation and pelvic abscess pointing into the rectum at its upper part. The absence of any patulous condition of the anus and the height of the abscess contra-indicated its being opened by the bowel, as there was probably gut between it and the floor of the pelvis, and, seeing that it was pointing into the upper part of the rectum; there was no indication to approach it by the abdominal route. Left alone it discharged into the rectum in less than 24 hours, giving rise to offensive diarrhœa, with pus in the stools. The temperature and pulse at once fell to normal and continued so. He was discharged from hospital after a week.

CASE 5.—The patient, I. J., a married woman aged 33, was admitted to hospital 30/10/19 suffering from an attack of abdominal pain of 14 days' duration, with the development of a lump in the right iliac fossa. The history was that of an attack of acute appendicitis, with perforation, except that there had been no vomiting. A lump had gradually appeared in the right iliac fossa, and had steadily increased up to the time of her admission. The attack was not associated with any menstrual disturbance. She gave a history of a similar attack three months previously, with the development of a lump in the same way. It became quite large and then appeared to vary. When she had diarrhœa it became less. Finally it ceased to enlarge and gradually disappeared.

On examination her general condition was good; she was high-coloured and of more than average stoutness. Her tongue was moist and furred, her breath somewhat fœtid. Temperature 101° F., pulse 128. Locally a large mass, the size of a coconut, could be seen occupying the right iliac fossa. It was tender on pressure, but there was no rigidity over it. It was hard, smooth, and well defined, fixed to the right iliac fossa, and resonant on percussion. There was no flexion of the right thigh. The diagnosis made was that of acute appendicitis with perforation and abscess formation, the appendix occupying the subcæcal as opposed to the retro-cæcal position. The view taken of the previous attack was that an abscess had formed in the same situation and that it had burst into the cæcum, giving rise to the attacks of diarrhœa. Owing to the friability of the walls of the abscess and the danger attached to the separation of the adhesions, which are very dense by this time, coupled with the fact that in a proportion of the cases it is impossible to identify the appendix, it was decided to drain the abscess and do nothing more. This was accordingly done, the patient making a straightforward recovery. She was given instructions to return in six months to have the appendix removed, as it was almost certain that she would have recurrent attacks.

Cases Sent in as Acute Appendicitis.

CASE 6. *Tuberculous mesenteric glands.*—The patient, K. L., a boy aged 14, was admitted to hospital 4/10/19 as a case of appendicitis. The doctor was called to see him the night before, when he had "great pain over McBurney's point, vomiting, and some slight rigidity in that region. Temperature 99° F. He had, it appears, a similar attack some months ago." On admission he was not very robust, but though he did not look ill he had the facies associated with tuberculosis. Temperature and pulse were normal, and tongue clean. Locally the abdomen was not distended, and on palpation it had the "doughy" or "podgy" feel which is so characteristic of those in whom tuberculous mesenteric glands are found. Two separate small masses were readily felt, which were tender on pressure, but no rigidity was noted unless pressure were applied over the masses. The larger mass was situated in the right iliac fossa, the smaller rather above and to the left of the umbilicus. It was decided that the larger mass comprised tuberculous glands in the ileo-colic angle and the smaller a similar condition in the root of the mesentery. No operative measures were advised and the boy improved and went home in a few days, with instructions to carry out treatment appropriate to the condition.

CASE 7. *Tuberculous mesenteric glands.*—The patient, M. N., a boy aged 7, was admitted to hospital 8/10/19 as a case of acute appendicitis. For some days past he had complained of pain in the abdomen, with irregular vomiting and constipation. On admission he was a small, thin, weedy boy, with the typical tuberculous facies. He was very lethargic. Tongue was somewhat furred. Temperature 98° F., pulse 92. Locally his abdomen was not distended, and on palpation there was the same markedly "doughy" feeling which was present in the last case. An irregular nodular tender mass was felt nearer the mid-line and closer to the umbilicus than the usual appendix abscess. There was no rigidity except when the mass was

pressed upon. Diagnosis was of tuberculous glands in the ileo-colic angle. No operation was advised and with general treatment his pain and constipation disappeared, and he improved greatly. An interesting feature of the case was the occurrence of two rises of temperature, 100°2° and 99°4°, on the third and twelfth days respectively, both of which fell to normal by a short lysis. This nine or ten days' cycle of temperature elevation is very common in cases of tuberculosis, and its occurrence has been especially emphasised by Mr. W. G. Richardson, surgeon to the Royal Victoria Infirmary, Newcastle-upon-Tyne. On his discharge from hospital the parents were given instructions as to his mode of life, fresh air, feeding, &c.

CASE 8. *B. coli infection of urinary tract.*—The patient, O. P., a married woman aged 28, was admitted to hospital 8/10/19 as a case of acute appendicitis, the history extending over a period of a week. On investigation there was nothing to suggest appendicitis except pain in the right side, shooting into the groin, and tenderness on pressure over that area. The attack had commenced a week previously with increased frequency of micturition, difficulty in commencing, and pain at the end of the act, referred particularly to the vulva. During the last three days the pain had extended into the right iliac fossa and right loin, so that, at the time of her admission, the pain appeared to commence at the anterior part of the loin and radiated into the groin, and it was associated with a desire to micturate. The increased frequency of micturition was still present and pain at the end of the act. There had been no vomiting since the onset of the attack, and she suffered from obstinate constipation.

On examination her general condition was good, and she was somewhat flushed. Temperature 100° F., pulse 102. Locally there was no distension of the abdomen. She was tender on pressure over the right kidney and along the ureter, but no rigidity was present and no mass was felt. There was no vaginal discharge. A provisional diagnosis of *B. coli* pyelitis and cystitis was made, and a catheter specimen of urine sent to the bacteriologist. X ray examination revealed no shadow suggestive of calculus. Aperients were administered and urinary antiseptics and diuretics given, and within three or four days the whole condition had completely cleared up. The bacteriological report confirmed the presence of *B. coli* in the urine in pure culture, with some pus cells.

CASE 9. *Retention of urine.*—The patient, Q. R., an unmarried female, aged 20, was sent to hospital as a case of acute appendicitis 28/10/19. On the night of 27th she went to bed feeling all right, slept all night, and was awakened at 6.30 A.M. with severe pain in the right hypogastrium, which she described as of a stabbing nature, and which continued with remissions until her admission on the afternoon of the 28th. She wanted to pass urine, but was unable to do so, none having been passed since the night of the 27th. There had been no vomiting, but she suffered from constipation. Menstruation had been regular, and had occurred four days before the onset of the attack. She gave a history of a similar attack two months previously, with retention of urine, which had had to be relieved by catheter, and she was quite well after the administration of a purgative. This attack was preceded by a week of obstinate constipation.

On examination she looked pained and anxious. Tongue furred and moist, temperature 99° F., pulse 100. Locally, there was marked distension of the hypogastrium, and the distended bladder could be seen and felt extending to within 2 in. of the umbilicus. It was tender on pressure, and she complained more of pressure over the right side than the left. There was no rigidity of the belly wall. Per rectum nothing was felt, except the cervix uteri, which was normal in position and condition, thus excluding the possibility of a retroverted gravid uterus. The diagnosis of acute appendicitis was not entertained, and the bladder was emptied and an enema given with excellent result. She expressed herself as greatly relieved, the pain disappeared and her tenderness rapidly cleared up, and she was discharged from hospital quite well three days after her admission.

CASE 10. *Movable kidney with hydronephrosis.*—The patient, S. T., a married woman, aged 41, was sent into hospital 31/10/19 as an appendix abscess on account of a mass, situated on the right side of the abdomen, about the level of the umbilicus. She gave a history of occasional attacks of pain in the right loin, which did not come on suddenly and which were never very severe, though the degree of severity increased for some time after the onset. These attacks of pain were associated with increased frequency of micturition, but there was no vomiting. When the attacks passed off she noticed the passage of an increased quantity of urine. She said the attack for which she had been sent to hospital was similar to these, and was still in progress.

On examination she was thin, but did not look ill. Temperature 98°8° F., pulse 80. Locally the abdomen was rather of the scaphoid variety, and examination was easy. There was no rigidity of the belly wall, and a mass was readily felt on the right side, above the level of the ordinary appendix abscess, on a line opposite the umbilicus. It presented all the physical signs of a kidney, being somewhat larger than normal, and having instead of a depression in the region of the hilum, a tense, more or less spherical swelling, the kidney tissue encircling it on its upper, outer, and lower parts in a crescentic manner. X ray examination revealed no shadow suggestive of calculus. The diagnosis made was "movable kidney with obstruction to the outlet of urine from the pelvis and consequent hydronephrosis." She was given aperients for her constipation and, with rest in bed, the hydronephrosis disappeared accompanied by the passage of an increased quantitity of urine. The kidney remained as before, but the swelling in the region of the pelvis had gone. She was ordered a belt in preference to operative treatment.

CASE 11. *Pneumococcal peritonitis.*—The patient, U. V., a girl 9 years of age, was sent to hospital 2/10/19 as a case of acute appendicitis with general peritonitis. She was admitted on the fifth day of her illness, and the following irregular story was given by the parents. She complained at first of headache and was feverish and ill on the Sunday and Monday. On the Tuesday she felt able to go to school, but had to return home in the afternoon. On the Wednesday, for the first time, she complained of pain in the abdomen, apparently generalised and accompanied by diarrhœa. The abdominal pain rapidly became worse, and vomiting began and continued, the diarrhœa passing off.

On admission, she was crying out continuously with the pain in her abdomen, and she lay huddled up in bed, with the thighs flexed on the abdomen. She looked extremely ill, with hollow eyes and sunken cheeks, slight cyanosis, some embarrassment of the respirations, lips dry and cracked, and tongue coated with a brownish fur and dry, while there were sordes on the teeth. Temperature 103°8° F., pulse 124, varying. Capillary circulation very bad. The abdomen was examined with considerable difficulty, on account of the pain it gave her to lie on her back and straighten the legs at all. There was general distension, and rigidity and tenderness were very marked, and of equal degree all over the abdomen. There were no masses to be felt and no localising signs. Free fluid was not demonstrated. As in the case of the hands, the capillary circulation of the belly wall was very bad. No evidence of pneumonia was elicited. A diagnosis of pneumococcal peritonitis was made, the points in favour being the irregular history, the high temperature, the early diarrhœa, the rapid development of peritonitis, without the history of rupture of an appendix, and the sex and age of the patient. No interference was advocated, though this, on account of her general condition, would still have been the case had the diagnosis of acute appendicitis been confirmed. In spite of hot poultices, sitting posture, and rectal saline, she died on the fourth day, and post mortem and bacteriological examination the diagnosis of pneumococcal peritonitis, without pneumonia, was verified.

CASE 12. *Gonococcal peritonitis.*—The patient, W. X., 25 years old, was sent to hospital 8/9/19 as a case of acute appendicitis. The diagnosis was based on the presence of acute tenderness and some rigidity in both iliac fossæ of four days' duration. It commenced with increased frequency and smarting pain during micturition, and a heavy bearing-down sensation. Patient also complained of continuous pain in both iliac fossæ extending up towards the sides. There had been no vomiting with the attacks. Bowels constipated. Menstruation had always been regular, but her last period had continued a little longer and the discharge had been a little more profuse than usual.

On examination she looked feverish and ill. Her tongue was furred and moist, breath not fœtid. Temperature 100·8° F., pulse 88. Locally there was no distension of the abdomen, but she was extremely tender in both iliac fossæ and over the pelvis, and there was some, though not excessive, rigidity in the same regions. No mass could be felt, and there was no free fluid demonstrable. There was a purulent vaginal discharge present. Per vaginam there was marked tenderness in the fornices, but no mass was to be felt. A diagnosis of gonococcal peritonitis was made, and no operative interference advised. A swab of the vaginal discharge and a catheter specimen of urine were sent for bacteriological examination. The vaginal discharge contained diplococci indistinguishable from gonococci, and the urine showed the presence of *B. coli*, but contained no pus. With poultices and general treatment the patient ultimately made an excellent recovery, the temperature rising to 104° on the sixth day and becoming normal on the eleventh. Subsequently there was no further trouble.

Cases of Intestinal Obstruction.

CASE 13. *Strangulated umbilical hernia, with diabetes.*—The patient, Y. Z., a widow 51 years of age, was admitted to hospital 4/9/19 suffering from a strangulated umbilical hernia of two days' duration. She had had an umbilical hernia for many years, which had steadily increased in size and which had been the cause of repeated attacks of griping abdominal pain and vomiting. The last attack had been very severe, the pain being continuous, with exacerbations, the vomiting excessive, gradually becoming more and more offensive as time went on, and there had been complete arrest of flatus from the onset up to the time of admission. A few hours before coming to hospital she thought the pain had become less severe and the vomiting less frequent.

On examination she was a very stout woman, weighing about 16 st., somewhat cyanosed, with marked respiratory embarrassment and wheezing breathing, and she looked hollow-eyed and ill. Her breath was offensive and tongue thickly coated. Temperature 97·8° F.; pulse 92, soft, and of poor volume. The urine contained sugar. A large umbilical hernia, soft and free from tenderness for the most part, was present, but the upper portion, the size of an orange, was hard, tense, and tender. On account of the patient's general condition, the diabetes, the poor quality of the pulse, the bad chest, and the excessive fat, operative interference was not advisable, the chief deterrent being the glycosuria. The amelioration of the symptoms, pain and vomiting, might be regarded equally well as evidence of gangrene of the strangulated gut or relief to the obstruction, and an enema was administered with a view to finding out whether the gut was completely obstructed or not. The result of the enema was a little hard scybala and a small quantity of flatus. The latter was interpreted as indicating only a partial gut obstruction, and thus her best chance appeared to be the administration of further enemata, sodium bicarbonate being given per rectum for the diabetes. This treatment proved successful, and she made a straightforward recovery, leaving hospital before the end of a week.

CASE 14. *Double congenital cystic kidneys—uræmia, with obstructive symptoms.*—The patient, B. A., a married woman aged 49, was sent to hospital 21/8/19 under the care of Mr. Richardson as a case of chronic intestinal obstruction with a mass on the left side of the abdomen. The history extended over a period of nine weeks, during the greater part of which she had been bedfast and had suffered from severe and constant headache. She had lost a considerable amount of flesh and latterly complained of persistent thirst. For the week previous to admission she had had a great deal of pain in the left side of the abdomen, and her bowels had not been moved during this time, aperients failing to give her relief. There had been no arrest of flatus. A large mass had been discovered emerging from under cover of the left costal margin. During the last two days the headache had become much worse and the patient now complained of much pain in the left hip with loss of power in the leg.

On examination she was a fairly well-nourished woman, but looked quite ill. Tongue rather dry and furred. Temperature 100·4° F., pulse 112. Urine contained no albumin. Locally there was no general distension of the abdomen and no visible peristalsis. A mass could be seen projecting from under the left costal margin and extending towards the umbilicus. This mass presented all the physical signs of a kidney swelling, and it was distinctly nodular on the surface, the colon occupying its anterior and mesial aspects. On examining the right flank the corresponding kidney could also be felt, somewhat enlarged, but much less so than the left. X ray examination revealed no shadow suggestive of calculus. The diagnosis made was, therefore, congenital cystic disease of both kidneys, with uræmia, the manifestations of the latter condition being the headache, thirst, and loss of flesh, and the not uncommon simulation of intestinal obstruction. It is scarcely necessary to say that operative interference was not advocated, enemata and aperients leading to the disappearance of the obstructive symptoms and light diet and abundance of liquids producing a marked amelioration of the uræmic manifestations. She left hospital at the end of a fortnight considerably improved.

Other Types of Case.

CASE 15. *Leaking duodenal ulcer.*—The patient, D. C., a man aged 58, was admitted to hospital 30/10/19 because of an attack of acute abdominal pain. The history was that 36 hours before admission, when walking outside on his way to work, he was suddenly seized with an extremely severe pain in the upper abdomen, the worst he had ever had in his life. It completely crippled him, and he had to be helped home. He did not vomit at the time of onset, but since then he had vomited everything he had taken. For the past few months he had been much troubled with indigestion, pain coming on regularly about half an hour after meals. With it there had been no vomiting, but a good deal of "belching." There had been no previous similar attack.

On admission his general condition was not good. He had obvious trouble with his chest, emphysema and bronchitis, and he looked ill. Temperature 96·8° F., pulse 100, of very poor quality. There was a trace of sugar in his urine. Locally there was no distension of the abdomen. There was very marked rigidity and tenderness in the upper half, especially on the right side, where the rigidity was boardlike. He was tender in the lower half of the abdomen also, but rigidity was much less pronounced. There was no evidence of free fluid or gas. The diagnosis made was a ruptured duodenal ulcer, with a small leak, which, though affecting the general peritoneal cavity at the beginning, was at the time of admission shut off, as evidenced by the distribution of the rigidity and the absence of free fluid or gas. It was decided to leave him alone, and if a localised abscess formed to deal with it later. If the diagnosis of a limited leak were wrong, then the time since the rupture, coupled with his bad general condition, supported the non-operative treatment, and his best chance was to be left alone. The sugar in his urine was an additional reason against operation. He was propped up in bed, poultices were applied to his abdomen, and saline was administered per rectum. Sedatives were ordered only to be given if he complained much of pain. His abdominal condition slowly cleared up without abscess formation, and his chief

trouble in hospital was his chest. His pulse was irregular at times, and he had much breathlessness, with bronchitis and muco-purulent expectoration. His pleura was watched for empyema, but none developed. After a somewhat slow convalescence he was discharged from hospital greatly improved.

CASE 16. *Rupture of kidney by a kick.*—The patient, F. E., a man of 20 years of age, was admitted to hospital 31/10/19 as a case of ruptured kidney. The history was that three days previously he had been kicked in the right side by a horse. Since that time he had been confined to bed, had suffered a good deal of pain, and had passed much blood in the urine. The last urine he had passed was thick and brownish. Since the injury there had been no vomiting, and his bowels had been regular and motions normal.

On examination he was a healthy-looking youth, with no evident anæmia. Temperature 99·6° F., pulse 84. Locally he complained of a dull aching pain in the right loin, and there was considerable tenderness on deep palpation over the right kidney. There was no rigidity till deep pressure caused him pain. No distinct mass was made out, but bimanually there was the feeling of a thickening in the flank, suggestive of a perirenal hæmorrhage. There was nothing abnormal in the rest of the abdomen. A specimen of urine obtained showed obvious blood, but no clot was present. No operative interference was entertained, the pulse being watched for evidence of hæmorrhage. The patient made an uninterrupted recovery, the blood in the urine varying a little but gradually clearing up, and no increase of swelling appearing in the kidney region suggestive of extravasation of urine. He had one attack of typical renal colic associated with the passage of a minute clot.

The following cases are of interest in that, though they are of the same class as those in which no radical operation was advocated, some special feature necessitated a change of attitude and course.

CASE 17. *Acute appendicitis with perforation and abscess, and tuberculous cæcum and glands.*—The patient, H. G., a boy aged 7, was admitted to hospital 25/5/19 as a case of acute appendicitis with abscess. The history was of two days' duration, typical of appendicitis. On the first day he had a good deal of pain referred across the abdomen about the umbilicus, with vomiting. On the second day the pain was much better, but on the third morning, a few hours before admission, it reappeared with increased severity in the right iliac fossa. There was no history of any previous attack; indeed, he had been exceptionally healthy and had lived a very active, open-air life.

On examination he was a thin, tuberculous-looking boy, and appeared to be quite ill. His tongue was thickly coated with brown fur, and his breath was offensive. Temperature 100·4° F., pulse 106. Locally he had a definite, localised, tender mass in the right iliac fossa, with some rigidity over it. It was resonant on percussion. There was no rigidity or tenderness of the rest of the abdomen. A diagnosis of subcæcal appendix abscess was made, and operation proceeded with. On opening the abdomen there was a considerable quantity of free, clear fluid, suggestive of tubercle. The mass was formed chiefly of omentum, enclosing an acutely inflamed and perforated appendix, and a small quantity of pus. The appendix was rather conical in form, about the thickness of a thumb-end at its base. It contained two large concretions and was perforated just at its attachment to the cæcum. The cæcum presented a plaque of thickening in its wall suggestive of tubercle, but there were no tubercles on its peritoneal surface. There were numerous tuberculous glands in the ileo-colic angle and in the mesentery. There was no choice but to remove the appendix. A clamp was put on at its base, but it cut completely through, detaching the appendix completely from the cæcum. It was removed. Considerable difficulty was experienced in dealing with the hole left in the cæcal wall, on account of the thickness and rigidity of the latter, and also as it was situated at the line of reflection of the peritoneum on to the iliac fossa. It was necessary to mobilise the cæcum somewhat and to take large bites of its wall in order to get a satisfactory invagination, and this suture was reinforced by adjacent tags of fat and the omentum on account of the very real fear of a tuberculous fæcal fistula developing. A drainage-tube was left in and the belly wall was sutured in layers. The boy, fortunately, made an uninterrupted recovery. In this case the site of the perforation and the presence of tuberculosis were almost certain to result in a fæcal fistula if no radical operation had been performed, and the operation gave the only hope of avoiding this most serious complication. Sepsis had already been added to the tuberculous infection, and the operation was certainly of value in helping to combat it.

CASE 18. *Acute appendix abscess, with tuberculous mesenteric glands.*—The patient, J. L., a boy of 12, was admitted to hospital 5/11/19 as a case of appendicitis of four days' duration. He gave a typical history of appendicitis, with pain first across the abdomen and later in the right iliac fossa, vomiting at the onset of the attack, and then elevation of temperature. He had had some difficulty with micturition and pain during the act during the last two days. He had had no previous similar attack. He had been treated for lupus since being quite a small boy, and was still attending the infirmary for treatment.

On examination his face was almost completely bandaged up, and he had widespread lupus. His tongue was furred and dirty, and his breath offensive. Temperature 98·8° F., pulse 128. Locally there was a large mass in the right iliac fossa, extending down into the pelvis, and resonant on percussion. He was rigid and tender over the mass, but the rest of the abdomen had the markedly "doughy" feeling typical of tuberculosis. Diagnosis made was appendix abscess, but the presence of tuberculous mesenteric glands was thought very probable. On opening the abdomen a large pelvic appendix abscess was found, and in addition extensive tuberculous mesenteric glands were present, especially large in the ileo-colic angle. On evacuating the appendix abscess a free stercolith was removed, and on inspecting its wall the appendix was seen to be acutely inflamed and presenting a large perforation at the site of a marked kink. It was tightly bound down and could not be mobilised, but, as it was certain to lead to further attacks if the perforation healed, it was removed base first, the mucous membrane being pealed out of the peritoneal and muscular coats. The inversion of the stump was not difficult and was satisfactorily accomplished. The abscess was drained. The patient made a straightforward recovery.

CASE 19. *Acute appendicitis, with pregnancy of five months' duration.*—The patient, L. K., a married woman of 28 years of age, was admitted to hospital 17/11/19 suffering from an attack of acute appendicitis. The history given was that 12 hours before admission she was seized with severe pain across the abdomen and in the right iliac fossa associated with vomiting. She had had one previous attack, which was less severe than the present one. She was five months' pregnant, and her pain had no resemblance to menstrual or labour pain, and there was no vaginal hæmorrhage with the attack.

On examination she looked ill, had a somewhat sunken-eyed and anxious expression, sordes on the teeth, and a very dirty brown-furred dry tongue, with fœtid breath. Temperature 99·8° F., pulse 120. Locally the abdomen presented a large mid-line swelling in its lower part, which looked and felt like a five months' pregnancy. She was acutely tender and rigid in the right iliac fossa, but no mass was to be felt. On account of the general and local condition of the patient and the shortness of the history, an acute appendicitis with gangrene was diagnosed and immediate operation advised. Operation revealed a much more advanced condition than the history suggested, and there was a large quantity of free milky fluid present with an acutely-inflamed, non-perforated appendix. The appendix was removed in the usual way, and the stump invaginated and the abdomen closed completely, in spite of the amount of milky fluid, in the hope that the peritoneum might be able to deal with the infection.

On examination of the appendix the mucous membrane was gangrenous, but there was no perforation, the infection having taken place through its wall. In another 24 hours it would have been completely gangrenous. The attack had, no doubt, been in progress before the onset of symptoms, and these latter only represented the period from the commencement of obstruction of the lumen. The condition did not clear up in the manner hoped for, and on the third day pus escaped between two of the stitches in considerable quantity, coming from a considerable depth. The subsequent course was similar to that of an ordinary appendix abscess and she was discharged from hospital quite well, no trouble having arisen in connexion with the pregnancy.

CASE 20. *Late appendix abscess, appendix entirely sloughed off from cæcum.*—The patient, N. M., a man of 54 years of age, was admitted to hospital 17/11/19 with an appendix abscess extending into the pelvis. The history was typical and the duration eight days. His general condition was fairly good. Temperature 99·6° F., pulse 80. Operation took place nine days from the onset. The abdominal wall was markedly œdematous and the muscle layers matted together with inflammatory exudate. The peritoneum was incised and an abscess cavity was opened into containing typical *B. coli* pus. On evacuating this the cavity was seen to be between the omentum and the belly wall. A finger was introduced, and it passed readily into a second deeper abscess cavity; this was opened up and evacuated and a free stercolith removed. The cavity extended well down into the pelvis. On examining its wall a small hole was seen where the appendix had completely sloughed from the cæcum, and the open mouth of the appendix base could be distinctly seen. It was evident that the usual procedure of simply draining these abscesses of long duration was contra-indicated, and it was necessary to remove the appendix. The dense nature of the adhesions all around and the friability of the whole abscess wall prevented any mobilisation of the appendix, and it was accordingly removed base first, its mucous coat being shelled out of its peritoneal and muscular coats. The hole in the cæcum was sutured with through-and-through catgut and invaginated with silk, very large bites of the cæcal wall being necessary to prevent the silk from cutting through. The cavity was drained. The patient made an uninterrupted recovery.

REMARKS.

The following are a few of the points which the above cases would appear to indicate, which, though by no means new, are worthy of recapitulation:—

1. In this class of work the ease of the average operations is prone to lead to carelessness in making a diagnosis, and so result in inferior judgment.

2. No hard-and-fast rules can be made; general principles ought to be laid down and followed, and special features of individual cases must be taken into consideration before a final decision as to treatment can be adopted.

3. The accepted contra-indications to operative interference still hold good. They are general and local, the general comprising heart, lung, and kidney disease (phthisis, chronic emphysema and bronchitis, uræmia, and, in the absence of organic disease of the heart, the rapid feeble pulse, cyanosis, cold blue hands, and bad capillary circulation associated with failure of the circulatory apparatus), diabetes, and so on. Examples of the local contra-indications are found in the presence of tuberculous peritonitis, where complications such as the possible addition of sepsis or the development of a fæcal fistula are such serious events. Also the presence of pregnancy deserves special consideration. In such cases judgment must depend on the relative seriousness of the condition already present and that recently superadded, and only where the latter is regarded as the more important must the former be ignored.

4. The chief objects of operation everywhere in the body are still to deal with hæmorrhage, sepsis, mechanical obstacles, or to remove a focus of disease (Rutherford Morison), or, in the case of injuries to the viscera, to deal with the lesion and remove extravasations of the specific secretions or excretions. Where these objects cannot be attained it is usually not wise to operate. A good example of this is seen in pneumococcal or gonococcal peritonitis, where until the infection, a general one, is sufficiently localised by Nature's efforts as to result in an abscess operative interference can only do harm.

5. In the cases of mistaken diagnosis, though at times differentiation is impossible, the error commonly arises from imperfect investigation in relation either to the history or the examination of the patient. This is well exemplified in appendix cases, where sufficient attention is not paid to the typical sequence of (1) pain, (2) vomiting, and (3) a rise of temperature, which is credited to Murphy, but which has been taught here for 25 years.

6. All surgical emergencies should be treated in a properly equipped hospital and every patient with a more than ordinary abdominal illness should be sent to such a hospital *at once* for observation and, if necessary, operation.

THE INCIDENCE OF NOSE, THROAT, AND EAR DISEASE AMONG AVIATION CANDIDATES.

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THE statistics on which this contribution is based have been obtained from the records of examinations held both at the Aviation Candidates Medical Board, Hampstead (Tables A and B), and at the various reception depôts of the Royal Air Force in the United Kingdom (Tables C and D). By the term aviation candidate is meant any adult who presents himself for medical examination with a view to becoming a pilot or observer.

The great majority of the candidates were between the ages of 18 and 23, and those obviously unfit were eliminated by a preliminary medical examination conducted at one of the reception depôts in the various areas of the United Kingdom. Those who passed this examination were sent to the Aviation Candidates Medical Board, Hampstead, and subjected to a more searching examination. Most of the candidates belonged either to respectable working families or to the middle classes—e.g., artisans, clerks, school teachers, engineers. There was a fair sprinkling of better class and public school youths, but neither the aristocracy nor the slums contributed to a marked extent.

Among those also examined at the Medical Board, Hampstead, were officers and other ranks seeking transfer from their units to the R.A.F. Many cadets likewise presented themselves, but it may be assumed that all had had a preliminary examination similar in severity to that conducted at the reception depôts. A certain number of the candidates had two or more defects and are there-

fore included under two or more categories in Table A.

Standards Required.

1. *Dental treatment.*—This was advised when candidates had two or more carious teeth or stumps. The worst cases were temporarily deferred until satisfactory treatment had been adopted. The fact that 31 per cent. of the candidates seen at Hampstead needed treatment speaks for itself.

2. *Tonsils and adenoids.*—Operative treatment was required when disease or hypertrophy was present with accompanying symptoms or signs.

3. *Deflected septum.*—In recommending submucous resection it was kept in mind that symptoms apparently trifling in importance on the ground tend to become considerably aggravated in the air.

4. *Chronic suppurative otitis media*, unilateral or bilateral, also the radical mastoid operation and dry perforation of the drum, were all causes for rejection. A healed antrotomy with satisfactory hearing and a sound membrana tympani was not included as a prohibitory cause.

5. *Hearing defects.* — (Candidates rejected under Section 4 are not included in this section.) The standard of hearing adopted was that a forced whisper should be heard at a distance of 20 feet by either ear, with the other occluded. Chronic catarrh accounted for a great many of the failures. Cases where it was thought that treatment might bring the hearing up to standard were temporarily deferred and re-examined at a later date.

6. *Scarred drums.*—Were not considered a cause for rejection unless obviously liable to break down under alterations of atmospheric pressure. The fact that pain, especially on descent, was a likely symptom was duly noted.

7. *No defects.*—Under this heading are included those in whom none of the preceding defects were found. It must not be understood, however, that much rarer conditions such as cleft-palate, or slight abnormalities causing no symptoms, were not occasionally found.

The following two tables (A and B) deal with candidates examined at the Medical Board, Hampstead. Table A deals with the commonest defects discovered among 5000 presumably A 1 aviation candidates. Attention must again be drawn to the fact that many of these were included in two or more of the above headings. It will also be noted that the percentage results for chronic suppurative otitis media and hearing defects agree very closely in the two tables. These results are approximate only and are not worked out to the nearest decimal.

TABLE A.—*Analysis of Nose, Throat, and Ear Defects of 5000 Aviation Candidates, presumably A 1 Men, Examined at the Aviation Candidates Medical Board, Hampstead.*

Treatment required and defects.	No.	Per cent.		Treatment required and defects.	No.	Per cent.	
Dental treatment	1548	31		Hearing defects, unilateral	11	0·25	0·61
Removal of tonsils	219	4·5		Ditto, bilateral ...	18	0·36	
Removal of adenoids	56	1·1	7·9	Has had mastoid operation	*4	0·08	
Removal of tonsils and adenoids ...	115	2·3		Scars, unilateral..	143	3·0	4·2
Submucous resection	109	2·2		Do., bilateral ...	59	1·2	
Chronic sup. otitis media, unilateral	72	1·4	1·66	No nose, throat, or ear defects ...	2745	55	
Ditto, bilateral ...	13	0·26					

* 1 simple, 3 radical.

In studying Table B it should again be noted, as mentioned under "Standards required," that although many candidates rejected for chronic suppurative otitis media suffered, as might be expected, from defective hearing, they are not included under the heading of the latter group.

TABLE B.—*Incidence of Chronic Suppurative Otitis Media and Hearing Defects in 47,069 Aviation Candidates, presumably A 1 Men, Examined at the Medical Board, Hampstead.*

No. examined.	Rejected for various reasons.		No. with chronic supp. otitis media.			No. with defective hearing.		
	No.	Per cent.	No.	E.	R.	No.	E.	R.
47,069	14,069	30	715	1·5	5	330	0·7	2·3

E, R = Total examined and total rejected percentages.

The last two tables (C and D) deal with statistics obtained at the various reception depôts of the United Kingdom. Many thousands were seen by the medical officers at these depôts, which served the double purpose of relieving the strain on the Hampstead Board, and reducing to a minimum the loss of time and money incurred on the part of obviously unfit provincial candidates in a fruitless journey to London. In Table C the term "aural defects" is used to include chronic suppurative otitis media and hearing defects; it is apparent that a certain number rejected under these headings would also suffer from other physical conditions prejudicial to success.

TABLE C.—*Percentage of Rejected Candidates at Reception Depôts.*

Total percentage rejected for all reasons	37
Percentage of total number examined rejected for aural defects	1·4

The last table (D) is an analysis of the aural defects (chronic suppurative otitis media and hearing defects) of 1500 candidates rejected for various reasons at the reception depôts. The numbers are not large but it is interesting to compare the right, left, or bilateral incidence of the defects, especially in view of the large proportion of bilateral hearing defects.

TABLE D.—*Incidence of Chronic Suppurative Otitis Media and Hearing Defects in 1500 Candidates Rejected for Various Causes at Reception Depôts.*

Chronic suppurative otitis media.			Hearing defects.		
Right.	Left.	Bilateral.	Right.	Left.	Bilateral.
11	13	6	7	4	16
0·7%	0·86%	0·4%	0·46%	0·26%	1·06%
2%			1·8%		

Summary.

Although these tables contain many items which almost speak for themselves, it is not sufficient to regard each individual one as a separate entity. In view of the fact that so many youths from and in different parts of the country were examined, it is possible to form a good idea of the amount of aural disease prevalent among young men of the middle classes. A calculation based on these figures shows that aural disease appears seriously to affect 2·8 per cent. of this part of the population. Similarly the incidence of other diseases, though not considered in the present report, could be adequately estimated.

One obvious conclusion remains to be noted: that much remains to be done before the amount of nose, throat, and ear disease affecting the youth of this country can be said to have been brought down to a negligible factor or an irreducible minimum.

DELAYED ARSENICAL POISONING:

A REPORT ON FIFTY-EIGHT CASES FOLLOWING THE ADMINISTRATION OF "606" PREPARATIONS.

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DURING the past 18 months there have been numerous reports of cases of poisoning following the administration of "606" preparations. These reports have described only single, or at most a few, cases. We have had the opportunity of seeing a large number of such cases, and the purpose of this paper is to draw attention to their prevalence and the variety of symptoms which may occur. The series reported below were all seen in military hospitals, but during the last four months several additional cases have come under our observation in civil practice.

The idea that syphilis should be treated in its early stages by free administration of salvarsan or neo-salvarsan was supported by the results of this treatment, as shown in the rapid disappearance of symptoms, the freedom from relapses, and the negative reactions readily obtained to the Wassermann test. This led the army medical authorities to adopt the "intensive treatment"—i.e., doses of salvarsan and mercury, administered once a week for seven or eight weeks, followed by a further course a few months later, and, if the Wassermann test was subsequently positive, a third course. It was recommended that the doses of salvarsan should be small at first, until the degree of the patient's susceptibility to arsenic was found. One-grain doses of mercury were advised. Instructions were issued that a physical examination, including tests for albuminuria, should be made before and after each treatment. Medical officers were warned to watch carefully for signs of arsenical and mercurial poisoning. Once a patient was considered non-infective he was sent to his lines or barracks, and the treatment continued at the Venereal Disease Treatment Centre of his district. By this method a patient received efficient treatment with a minimum loss of time from his duties. The day after a treatment he was excused duty or given light duty, but by the third or fourth day he was usually at full duty again. This plan worked successfully until the autumn of 1917, when several deaths occurred of men who had received treatment in the preceding three months. This led to an immediate and thorough investigation by the army medical authorities in England, and it was found that nearly all fatal cases had been treated in one of five centres.

Investigation of these centres showed that instructions had not been carefully followed, that in some cases patients had received repeated doses after symptoms of arsenical poisoning appeared, and that a proper urinary and physical examination had been omitted before giving these treatments.

In January and February, 1918, Captain Smith observed several fatal cases at No. 14 Canadian General Hospital, and reported them at a meeting of the Eastbourne Military Medical Society. Lieutenant-Colonel Strathy took charge of the medical division of this hospital in March, 1918, and together they observed 8 fatal cases. Following on these, the remaining 50 cases of the series came under our observation. The military authorities transferred Colonel Strathy to No. 16 Canadian General Hospital in August, 1918, thus leaving Captain Smith to carry on this work at No. 14 Canadian General Hospital. Influenzal pneumonia caused the death of Captain Smith in October, 1918, and unfortunately most of his records were lost, so that some of the earlier cases can be only incompletely recorded.

It is regretted that, owing to Service conditions, we were unable to follow all cases as long as could be desired. The pressure of work in 1918 and 1919 made it impossible to investigate the cases as thoroughly as we would wish. Colonel Strathy was ordered back to Canada in June, 1919, leaving further observation of the cases to Captain Hannah. The assistance of Captain C. V. Bailey was obtained towards the end of the investigation to study the liver changes from the chemical aspect. It is hoped that he may be able to add further information about the cases in the near future. The delay in publishing this paper is partly due to the fact that the Salvarsan Committee of the Medical Research Committee, England, had all our clinical data from June to September, 1919, for the purpose of including them in their report on salvarsan poisoning.

Fifty-eight cases are here reported. Eight of these were fatal, being the first of the series to come under observation. The remaining 50 cases made a slow but otherwise satisfactory convalescence.

Symptomatology.

Eight cases were sudden in onset and extremely severe and died within a few days. The remaining patients varied in the degree of their severity, but the onset was more gradual, and all left the hospital almost fully recovered. Therefore we have divided the series as follows: I. Fatal cases; II. Non-fatal cases.

Group I. Fatal cases.—In these cases the greatest number of doses of salvarsan given was 11, the least 4. The greatest amount of salvarsan administered, where it was possible to obtain records, was 6·95 g., the least amount 2·2 g. The average time of onset of symptoms after the last dose was 41 days, the longest interval 48 days, the shortest 18 days. One patient was under 20 years of age, four between 20 and 30, and three between 30 and 40 years of age. The smallest number of days which elapsed between the onset of symptoms and death was 2, the greatest 11, the average 5 days. The symptoms in every case were similar. The jaundice of onset was rapidly followed by nausea, epigastric pain, stupor, hæmatemesis, delirium, and death. A typical case is here reported.

Pte. R., age 21, 18 months before admission had had a slight sore on his penis. He did not report it and was not treated at the time. He had had five attacks of gonorrhœa in the previous two years. While under treatment for gonorrhœa in November, 1917, his blood was tested and showed a positive Wassermann reaction. In December, 1917, and January, 1918, he was given seven doses (4·7 g.) of novarsenobillon and seven one-grain doses of intramuscular mercury. Following this he was on light duty, but lacked strength and energy. On March 2nd he felt nauseated and chilly. March 3rd he vomited several times. March 5th he noticed he was jaundiced and his vomiting persisted, so that he could not retain solid or liquid food. The vomit became black. He was so weak he could not sit up. March 6th he was admitted to hospital.

On admission, 11 A.M., he was rational, but drowsy. He vomited frequently. The vomitus was black, and looked like hæmolysed blood. There were no clots. The tongue was furred and the breath foul. His face was cyanosed. Breathing somewhat stertorous. Temperature 98·3° F.; pulse 99; respiration 32. Abdomen slightly distended. Liver palpable just below costal margin. Spleen appeared large on percussion, but was not palpable, probably on account of abdominal distension. Examination of heart and lungs negative. Gonococci present in urethral smear. Leucocyte count, 34,000 per c.mm. Differential count: Polymorphs, 80 per cent.; lymphocytes, 16 per cent.; large mononuclears, 4 per cent. Urine: amber colour, acid, specific gravity 1020, sugar absent, albumin present + +; microscopically, pus cells and red blood cells; no casts. During the day he vomited more than a quart of the black material and some bright red blood. His pulse became weaker, the cyanosis was more marked, but he remained conscious until a few minutes before death, which occurred at 9 P.M.

Death in all cases but one followed rapidly. Four of the patients were wildly delirious. In the case of the patient who lived for 11 days after admission drowsiness came on gradually and slowly deepened until death. In all cases tested the urine contained bile, and in nearly all cases albumin as well. The blood picture was not characteristic. The hæmoglobin and red cells were not much reduced. The leucocytes varied in number from 14,000 to 34,000 per c.mm., and the polymorphonuclear leucocytes from 50 per cent. to 80 per cent.

Group II. Non-fatal cases.—The greatest number of doses of salvarsan given was 14, the least 2. The records showing quantities of salvarsan administered were not always available. The average time of onset of symptoms was 45 days, the longest interval 180 days, the shortest 3 days. Three patients were under 20 years of age, 30 between 20 and 30 years, and 17 between 30 and 50. Thirty-nine of the patients were admitted for jaundice, 8 for dermatitis, 2 for nephritis, and 1 for general debility. Jaundice followed dermatitis in 1 patient, and 2 other cases of dermatitis were followed by peripheral neuritis. Coated tongue, poor appetite, epigastric distress, abdominal distension, headache, general malaise, and loss of weight were noted throughout the group. The blood pressure was recorded weekly in all cases. During the early stages the systolic pressure was frequently below normal. It was often normal and never over 140 mm. As the patient's condition improved the blood pressure returned to normal. A routine urinalysis was carried out every few days with the following results: albuminuria 28 cases, bile salts present 35 cases, increased urobilin and urobilinogen in 16 cases, leucin and tyrosin never found. The microscopical examinations did not show any change of interest. A Wassermann test was obtained in all cases before they left the hospital. All gave a negative reaction with two exceptions; these two remained strongly positive.

Jaundice.

This was the most prominent symptom noted throughout the series, being present in all of the fatal group and 39 of the non-fatal group. It appeared within ten days of the onset of toxic symptoms, and lasted on an average for four weeks. In one case the jaundice was noticeable at the time of the patient's transfer to Canada, five months after its first appearance. Itching of the skin was never present. A marked tendency to somnolence manifested itself, disappearing with the decrease in icterus. The liver was distinctly enlarged in a number of cases, slowly returning to normal size, but never very tender on palpation. The condition of atrophy of the liver in the early stages and following at a later stage on hypertrophy is discussed below under X ray examination. The appetite usually continued small for about two weeks. When this returned there still remained for some days, and in some cases for several weeks, diminished digestive power with a feeling of heaviness and distension in the epigastrium when food was taken.

In the worst cases of this type there was a period of several days in which the secretion of bile was low, evidenced by lack of jaundice, absence of bile in the urine, and clay-coloured stools. A marked feature of these cases was the slowness with which they returned to normal. The average duration of hospital treatment was from two to three months.

The following case is an example of the slow return of bile secretion and liver function:—

Pte. B., age 29, had received 2·3 g. of galyl in six doses and 8 gr. mercury in oil. Fifty days after his last treatment he developed headache, epigastric pain, jaundice, œdema of hands and face, and diarrhœa. Examination showed liver and spleen palpable, and large traces of albumin and bile in the urine. Stools showed bile pigment. The blood picture was normal. Blood pressure 90 diastolic, 140 systolic. He was put on a daily diet of milk 40 oz. and sugar 2 oz., with bicarbonate of soda gr. xlv. Water was given freely. A week later jaundice was deeper, the œdema had disappeared. There was little or no loss of weight, no vomiting or diarrhœa. The liver dullness had become less, the spleen was still palpable, and the stools were clay-coloured. A week later the jaundice was less, the liver dullness on percussion was markedly decreased. (At this stage we had not commenced examining the liver by X ray.) The albumin had disappeared from the urine, but there was still a faint trace of bile. The blood count remained normal. Later the jaundice entirely disappeared, but the stools remained clay-coloured and his digestive powers low. His liver was apparently much atrophied, but he was quite comfortable as long as he was kept on the low diet mentioned. Any increase of diet caused epigastric pain and discomfort. Apparently little or no bile was being formed in the much-damaged liver. Convalescence lasted over six months, but recovery was apparently complete.

Dermatitis.

Eight cases of dermatitis following salvarsan were admitted to No. 16 Canadian General Hospital between March and June, 1919. While dermatitis was the most prominent manifestation, gastric disturbances, congestion of the mucous membrane, loss of weight, and general weakness were also present. Liver changes, similar to those occurring in the jaundice cases, manifested themselves at some time during the illness. The average time for the appearance of this skin condition was usually within two weeks following the course of salvarsan.

It began as a patchy papulo-erythematous eruption, spreading until confluent and until the whole skin was a crimson colour and slightly infiltrated. A few days later desquamation commenced, lasting several weeks. The scales were large, thick, abundant, and without any exudation beneath them. As the exfoliation decreased the infiltration and brown pigmentation of the skin increased, especially over the abdomen and extremities. Four of the cases developed numerous superficial abscesses with elevated temperature extending over a period of three to five weeks. A peculiar condition of the toe and finger-nails was observed in these cases. They became pitted and thickened,

followed by splitting and shedding of the nails, and eventually new ones replaced them. The hair of the scalp, axillæ, and pubes fell out, but was gradually growing again at the time the patients left the hospital. A typical case is described below:—

Driver S., aged 37 years, developed a sore on the penis Dec. 15th, 1918. Between 17/2/19 and 20/3/19 he was given five doses of neosalvarsan intravenously and 5 gr. of mercury intramuscularly. On the latter date an irritating red rash appeared on the neck and arms. He was given a further dose of neosalvarsan and mercury. The rash became more severe, and exfoliation followed a few days later. The urine showed albumin.

He was evacuated to England and admitted to No. 16 Canadian General Hospital on 10/4/19. On admission he complained of severe irritation of the skin and conjunctivæ. Exfoliation of the skin was very marked, the conjunctivæ were reddened, and his hair was falling out rapidly. Stomatitis was severe. He had no gastric symptoms. Temperature 102° F. Liver was palpable. Hæmoglobin 85 per cent. Red blood cells 5,800,000 per c.mm. White blood cells 17,000 per c.mm. Differential count showed a slight increase in the polymorphonuclear cells. Blood pressure diastolic 70, systolic 114. On 16/4/19 three large superficial abscesses were present; these were opened. On 25/4/19 liver and spleen were palpable. Skin showed slight brown pigmentation. No bile or albumin in urine. By 5/5/19 several more abscesses had developed. Liver and spleen still palpable. Urine showed no albumin or bile. After this he steadily improved.

Peripheral Neuritis.

In two cases of this group peripheral neuritis occurred. They were both admitted for "exfoliative dermatitis," and developed neuritic symptoms several weeks later.

Pte. P., aged 25 years, was admitted to No. 16 Canadian General Hospital on 16/4/19. Sore had developed on penis 27/12/18. He had received several doses of salvarsan and six injections of mercury. A papular eruption, followed by desquamation, appeared on his body after the fifth injection. Four months after treatment he began to complain of weakness and some numbness in the lower extremities. This condition grew worse. 26/6/19: Examination showed marked weakness of upper and lower extremities, with toe-drop and wrist-drop. Some decreased sensation in hands and feet. Deep reflexes absent. He was unable to feed or dress himself. Two months after the onset of neuritis he was invalided to Canada. At this time he had slightly improved. Deep reflexes were still absent. He was beginning to feed himself, but was unable to walk. Sensory changes had disappeared.

A Case of Arsenical Poisoning due to Fowler's Solution.

A condition very similar to poisoning following salvarsan was found in a patient suffering from arsenical poisoning after the administration of Fowler's solution for psoriasis.

Sgt. F., aged 35, admitted to hospital 24/2/19; had enjoyed good health previously, but had had psoriasis for 15 years. Five months previous to admission he commenced taking Fowler's solution, 5 minims three times a day, and except for short intervals had taken this dose until admission. A month previously he had noticed that the skin of his body and extremities was becoming dark. He had lost 40 lb. in weight, sleep was restless, and appetite very poor. Examination showed nigger brown pigmentation of the skin over all of the body except the head, hands, and feet, and most marked on abdomen, back, thighs, and perineum, with fine bran-like desquamation. Heart and lungs were normal. Blood pressure normal. Liver showed atrophy both on percussion and by X ray. The height of the liver shadow in the right parasternal line in over 50 normal patients was not less than 6 in., whereas in this patient it was 4¾ in. Spleen not enlarged. Urine showed no bile or albumin. He was rested for a month and given milk diet. 31/3/19: Gaining weight and strength. Appetite improved. No change in pigmentation. 7/4/19: Appetite good. Stools normal. 8/5/19: Feels quite well. Full diet. Liver almost normal size, 6¼ in. deep in parasternal line.

This patient, evidently very susceptible to arsenic, developed a chronic dermatitis and atrophied liver from the administration of only 15/100 gr. of arsenious acid daily. His symptoms referable to the liver were almost identical with those of patients who had received salvarsan or neo-salvarsan.

Additional Cases.

The month of August, 1919, brought many convalescent patients to England from the hospital centres in France for immediate transfer to Canada. At No. 16 Canadian General Hospital we observed 11 more cases of "606" poisoning which are not reported in the above series. Time did not permit us to investigate them thoroughly, but they readily grouped themselves according to their outstanding features, as follows: Jaundice, 7 cases; dermatitis, 3; general debility, 1.

Post-Mortem Findings.

As the post-mortem examinations showed very similar conditions in all cases, the autopsy report of Pte. R., whose case is described above, is given as typical;—

Autopsy, 14 hours after death. Body well developed and well nourished. Well-marked icterus of skin and conjunctivæ. Body fat is tinged with jaundice. No free fluid in the peritoneal cavity. Many hæmorrhagic spots, about the size of a sixpence, in the mesentery. Right pleura contained about 50 c.cm. of straw-coloured fluid. Few old adhesions at left apex. The pericardium was normal. Lungs crepitant throughout. Bloody frothy fluid flows from bronchi. Some hypostasis. Heart muscle pale, otherwise normal. Stomach filled with black, unclotted, hæmolysed blood. Mucosa showed considerable digestion, but no ulcers or bleeding points found. Duodenum and jejunum contained black blood similar to that found in stomach. Intestines otherwise normal in appearance. Œsophagus, suprarenals, and pancreas normal. Spleen slightly larger than normal, on section almost diffluent. Liver considerably smaller than normal, capsule wrinkled, on section pale, with nutmeg appearance, friability about normal. Gall-bladder contained 5 c.cm. of normal-looking bile. Kidneys larger than normal, on section very pale, stellate veins congested, cortex swollen, considerable amount of fat in pelves, capsule strips with difficulty. Meninges slightly congested. Brain appears normal.

Anatomical diagnosis: (1) Acute atrophy and degeneration of liver. (2) Slight chronic nephritis and acute cloudy swelling. (3) Mesenteric hæmorrhages. (4) Beginning myocardial degeneration.

Microscopic examinations showed marked damage of the parenchyma of liver and kidneys. The liver lobules were almost unrecognisable, due to the great reduction of liver cords, and where liver cords remained they were remarkably degenerated. The central vein of the lobule was seen supported by the fibrous reticulum. The lobule and Glisson's capsule were infiltrated with round and polymorphonuclear cells. Degeneration and desquamation of the epithelium of the higher tubules were found in the kidneys.

Just before submitting this paper for publication we had the opportunity of seeing an autopsy on a demobilised soldier who died following anti-syphilitic treatment. His history was very similar to the cases in our fatal group, except that he had received only 2 gr. of mercury but 5·85 g. of salvarsan. The liver on section had the appearance which is usually seen in acute yellow atrophy, the cut surface being of a yellowish-brown colour, with numerous elevated areas of a deep red.

Microscopically, degenerating liver cords were seen in the damaged liver lobules.

Ætiology.

Nearly all the observers of salvarsan poisoning have concluded that the benzol group in the salvarsan is the cause of the poisoning. With this we entirely disagree, as we believe that the cases are typical of delayed arsenical poisoning. It is well known that arsenic attacks the liver, stomach, skin, and nerves. These were the main organs of the body affected in the series we are reporting. The symptoms in the case of arsenical poisoning following the administration of Fowler's solution are almost identical with the cases following salvarsan.

It is apparent from the cases reported that age and syphilis are not causative factors. It occurred in all army ages, in all stages of syphilis, and in patients who had never had syphilis. The direct cause of the symptoms is poisoning of the liver, skin, stomach, and kidneys by arsenic. One patient had previously had a wound of the liver which possibly was a predisposing cause and led to a diagnosis of abscess of the liver. The abdomen was opened, which probably hastened death. One patient gave a history of an attack of jaundice five years previously. Three of the fatal cases had gonorrhœa at the time of death. In Dr. Wallace Wilson's fatal case, mentioned below, gonorrhœa was also present. One was alcoholic and had chronic nephritis. One had had nephritis six months previously, and one at autopsy showed a gummous mass as large as a tangerine under the diaphragm. It was composed of brownish material. It is not certain whether this was a pre-existing condition, or was due to the breaking down of the liver from arsenic. No particulars of previous history were available.

It is noticeable that all fatal cases but one occurred between November, 1917, and March, 1918. Routine urinary and physical examinations were then insisted upon before each administration of salvarsan and mercury in all venereal centres.

Preparations Employed.

None of the cases were treated with the original German preparations, but occasional reports of similar cases are published in the recent German literature. Nearly all the patients were treated with substitutes for neo-salvarsan. Some of the patients were given neo-kharsivan, some galyl, and some novarsenobillon. As there are no records obtainable as to which of these preparations was most commonly used, and as we are not able to find records in all cases of the preparations which the patients received, it is not thought that anything would be gained by giving data as to which preparation was given in our cases. The cause of the poisoning was apparently more a matter of injudicious dosage and lack of physical and urinary examination than of the particular preparation used.

The Salvarsan Committee of the Medical Research Committee has investigated the various preparations very thoroughly, and where fatalities have occurred it has tested capsules of the drug from the batch prepared at the same time. Its report will deal with this part of the problem much more thoroughly than we can attempt to do. Our impression is that it is the administration and not the preparation or composition of the drug which is at fault.

In all cases intramuscular injections of mercury were given at the same time as the arsenical treatment. A few of the patients showed slight symptoms of mercurial poisoning, but mercury is known to be an irritant of the kidneys and in excessive doses to cause degeneration of the tubular epithelium, and it seems not at all unlikely that for this reason it acted as a predisposing factor. If the kidneys were damaged by the mercury the elimination of the arsenic would be delayed. There is no evidence that mercury has a toxic action on the liver. Arsenic is stored principally by the liver and is also toxic to the kidneys. It is excreted by the kidneys and also largely by the skin.

We believe that the combination of "intensive treatment" by mercury and salvarsan probably favours the occurrence of arsenical poisoning more than when arsenic and mercury are administered in separate courses. Whether the therapeutic benefits of the simultaneous treatment outweighs these dangers we are not prepared to judge. Since returning to civil practice we have noticed several cases of mild jaundice and slight atrophy of the liver. These are all that have occurred in some hundreds of cases where arsenic and mercury have been administered in separate courses. Dr. Wallace Wilson, of Vancouver, has furnished us with the history of a patient who died in Vancouver three months after a combined course of six novarsenobillon and six mercurial treatments.

Fatalities would probably be avoided in all cases if the patient were examined carefully before and after the treatment, and dermatitis, albuminuria, and bile in the urine excluded. Where possible the liver should be screened at the end of each course, as atrophy can sometimes be diagnosed by this method before any other symptoms appear. The following case illustrates how atrophy of the liver may sometimes precede the jaundice.

Pte. L., age 42, was admitted to hospital 20/2/19, convalescent after influenza. He gave a history of seven doses of salvarsan and seven doses of intramuscular mercury in December and January, so his liver was examined by X ray screen 24/2/19. The liver was seen to be almost entirely to the right of the middle line, the angle formed by the junction of the vertebral and liver shadows was acute, the upper surface of the liver was more dome-shaped than normal. Atrophy of the liver was diagnosed, and against the patient's wishes he was put on a much reduced diet. He did not see why this should be done, as except for slow convalescence from influenza he had no complaints. He felt better, and at his own request he was given two weeks' sick leave and discharged from hospital on 12/3/19. While on leave he ate freely for the first few days, then he lost his appetite, and on 26/3/19 he became jaundiced for the first time and returned to hospital. His liver showed marked atrophy. He was put on the reduced diet again, and by 30/5/19 his appetite had returned, his jaundice had disappeared, and the liver had almost regained its normal size.

Prognosis.

Where the onset is sudden with stupor and vomiting death supervenes in a few days. Where the onset is gradual and no symptoms follow within a month of salvarsan treatment the outlook is good but recovery slow. The appetite returns quickly, but the power of digestion is usually poor for some weeks. In some cases patients were unable to take ordinary diet without discomfort for two to three months. Being soldiers, suggestion may partly account for this. A not unusual feature of the early stage of recovery is the apparent absence or great reduction of bile formation. No

bile is found in the urine, the stools are clay-coloured, and there is no jaundice.

Treatment.

As the nature of our first four cases was not understood no systematic treatment was tried. Purgatives were given. Vomiting was so severe that no food was retained. Morphia had to be given to control mania where it was present. Later it was thought that acidosis was a factor. Bicarbonate of soda was given but the cases were rapidly fatal.

In the milder cases the diet was much restricted as it was thought that the power of digestion was limited, and under these conditions toxic products might be formed from food products which could not be assimilated. Each patient was given 30 oz. of skimmed milk and 2 oz. of sugar daily. As they improved, 2 oz. of jam and a slice of bread were added. The diet was intentionally high in carbohydrates and low in fat to aid in combating acidosis. Tea and water given freely allayed the hunger to some extent. Gradually the diet was increased. Absolute rest in bed was ordered. Sodi. bicarb. drachms ii. in 24 hours were given. Except in the fatal cases vomiting ceased when a small diet was given. Loss of weight was slight.

Prophylactic Treatment.

After the cause of the jaundice outbreak was recognised as due to salvarsan treatment, the cases were carefully investigated by the army authorities and all intravenous treatment with salvarsan was discontinued for a few weeks. It was thought that infection might be the cause of the trouble. All the centres which had treated the cases were investigated and a common factor looked for. While the aseptic technique in some centres was found to be not perfect, in others there was no fault in technique. It was then found that the affected patients had not had a proper urinary or physical examination made before receiving repeated doses. The order was then repeated that an examination of urine must be made the day before each treatment and after each salvarsan treatment. Signs of arsenic dermatitis were to be looked for in all cases. After this routine had been rigidly enforced no fatal cases were seen by us.

From observing the patients closely it was found that moderate damage to the liver caused no appreciable symptoms, but when the damage became greater, loss of appetite and then jaundice appeared. If the diet was still free, the damage to the liver still progressing, severe symptoms developed rapidly, leading to death in a few days. If, however, the diet was kept at a minimum, severe symptoms did not follow. It would therefore appear that the severe symptoms of the fatal cases were due to the inability of the liver to handle the products of digestion carried to it, and death ensued from the poisoning of the body by these products. When patients had been only a few days on the low diet an increase in the symptoms, especially epigastric discomfort, was always produced by increased diet. The patients soon learned this themselves, and though at first inclined to take, surreptitiously, diet not ordered for them, they soon found that it caused them so much discomfort that they were satisfied to remain on the low diet ordered.

Examination of the Liver by X Rays.

One of the most interesting facts brought out by the observation of these patients was the changes in the appearance of the liver shadow as shown by X rays. Outlining the liver by percussion is of doubtful value, as it is impossible to be sure of its accuracy. Therefore, use was made of the X ray fluorescent screen in determining the size of the liver in the last 30 cases under observation. A large number of normal cases were examined in order to discover the normal location and outlines of the liver. All patients were examined standing. The level of the upper border of the liver was marked on the patient's skin, and then the lower border marked. Both markings were made at the end of an ordinary expiration. This revealed the fact that atrophy of the liver was common in the cases of arsenical poisoning, but was found in two other patients only. These two patients were both cases of so-called catarrhal jaundice of long standing. It was found that besides the decrease in the depth of the liver shadow atrophy showed itself by changes in the shape and position of the liver. The angle formed by the junction of the liver and vertebral shadows was frequently acute instead of a right angle as in normal cases. The liver tended to be displaced to the right and downwards, very little of the liver being to the left of the middle line of the body. The relaxed capsule permitted the upper surface of the liver to be drawn up into a more dome-shaped outline by the elastic traction of the lung, and the lower border of the liver approached the vertical more nearly than in the normal. In one case of atrophic cirrhosis, the liver being rigid, although atrophied, the change in the shape of the upper surface was not seen.

Schedule of Fatal Cases with Post-mortem Findings.

No.	Name	Age	Stage of syphilis	Treatment. g. = grams. gr. = grains.	Previous history.	Time of onset after treatment in days.	Duration of illness in days.
1	E. H.	Abt 20	Prim.	Salvarsan 7 g. Mercury 7 gr.	Nephritis 6 months previous.	Abt. 29	11
2	Pte. J. S.	21	Prim.	10 doses, 4 g. kharsivan and 10 gr. mercury.	Recent G.S.W.; old wound of liver; old right-sided pleurisy.	70	3
3	Cpl. G. D.	19	Sec.	2·2 g. kharsivan, 5 doses; 8 gr. Hg and some KI.	?	3	4
4	Sgt. O. H.	23	Doubtful history Wass ±	11 doses N.A.B.; Hg 9 gr.	Multiple flesh wounds 10 months previous. Gonorrhœa 5 months previous.	40	2
5	Pte. J. A. G.	37	Prim.	9 doses N.A.B., 5·85 g.; 8 gr. Hg, 8 doses.	Alcoholic. Has gonorrhœa (? chronic); nephritis.	6	2
6	Pte. J.H. R.	21	Latent for 14 yrs.	7 doses N.A.B., 4·7 g.; 7 gr. Hg, 7 doses.	5 attacks gonorrhœa in two years. Slight, healed, T.B. right lung. Slight chronic nephritis. Heart slightly enlarged and degenerated.	37	13
7	Pte. W. C. R.	38	Latent for 18 yrs.	9 doses N.A.B., 4·65 g.; 7 gr. Hg, 7 doses.	Slight flesh wound 3 months previous. Old pleurisy right side.	35	13
8	Pte. J. S.	—	—	Has had intensive treatment. No particulars available.	No history except hæmatemesis.	—	—

Post-mortem Findings.

CASE 1.—Pericardial and mesenteric hæmorrhages; liver weight 32 oz., semi-fluid; spleen small; 200 c.cm. dark blood in stomach; subacute nephritis.

CASE 2.—Peritoneal hæmorrhages; old right pleurisy; atrophy of liver; degeneration of kidneys; spleen enlarged; hæmorrhage from stomach.

CASE 3.—Small mesenteric, subpericardial and subpleuritic hæmorrhages; liver weight 32 oz.; spleen weight 8 oz.; gastric hæmorrhages.

CASE 4.—Petechial hæmorrhage skin of neck; mesenteric hæmorrhages; pleuritic hæmorrhages; blood in stomach +++; mass size of walnut in tail of pancreas, containing black, mucilaginous matter, (?) old blood; liver about one-third normal size, fibrous; congestion of ileum with film coating it; spleen not enlarged.

CASE 5.—Mesenteric hæmorrhages; spleen enlarged and diffluent; kidneys—slight chronic nephritis; hæmorrhage under capsule of pancreas; pericardial hæmorrhages; a pint of hæmolysed blood in stomach; intestines contain blood; liver normal size, nutmeg appearance due to degeneration of parenchyma, less friable than normal; broncho-pneumonia.

CASE 6.—Hæmorrhage in mesentery; old adhesions, left apex; liver smaller than normal; spleen enlarged and diffluent; kidneys enlarged; slight chronic nephritis; blood in stomach; slight myocardial degeneration of heart.

CASE 7.—Mesenteric and pericardial hæmorrhages; liver two-thirds normal size, nutmeg appearance, fibrous; spleen small and diffluent; small hæmorrhages under kidney capsule and under pancreas; blood in stomach.

CASE 8.—Parenchymatous degeneration of liver, also kidneys; superficial erosions of stomach.

Summary.

(1) Fifty-eight cases of delayed poisoning following administration of salvarsan and mercury were observed. Forty-seven of these showed symptoms referable to the liver—namely, jaundice, decreased digestive power, and liver atrophy. Eight of these were fatal (see Schedule) and at autopsy showed marked atrophy of the liver. Atrophy of the liver may be marked in cases which ultimately recover. This condition can be diagnosed by X rays.

(2) Dermatitis occurred in eight cases. Five were severe with marked exfoliation.

(3) Peripheral neuritis was observed in two cases.

(4) Albuminuria was present in over 50 per cent. of the cases. Œdema was found in two cases.

(5) The onset of the symptoms seldom occurred until five weeks after the administration of salvarsan had ceased.

(6) The earliest symptoms of salvarsan poisoning of the liver were—bile in the urine, albuminuria, loss of appetite, and jaundice. These symptoms should be looked for in all patients receiving salvarsan treatment, and on their appearance the administration of salvarsan should cease.

(7) By X ray examination atrophy of the liver may be diagnosed at an early stage.

(8) Where evidence of liver damage is present the diet should be reduced to a minimum.

(9) Dermatitis with atrophy of the liver occurred in one patient who received arsenic in the form of Fowler's solution, ♏v.

(10) We believe these were cases of delayed arsenical poisoning.

We are indebted to Hon. Captain Lachlan Gilchrist, C.A.M.C., for much help in the examination of the liver by X rays; and to Captain James H. Howell, C.A.M.C., who was in charge of the jaundice wards at No. 16 Canadian General Hospital for several months, for his painstaking work on the cases and for keeping accurate records; and to Captain H. B. Hetherington, pathologist, No. 14 Canadian General Hospital, who performed the autopsies on our fatal cases.

THE AFTER-HISTORY OF 500 CONSECUTIVE TUBERCULOSIS DISPENSARY CASES.

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THE following statistics were compiled after re-examinations or investigations made during the latter end of the year 1919 and the beginning of 1920 of the cases recorded, which were first examined by me at the West Ham Tuberculosis Dispensary between the months of June and December, 1914. At that time (i.e., over five years ago), with the exception of patients sent for diagnosis by a medical practitioner, only notified cases of pulmonary tuberculosis and their contacts were dealt with at this institution.

Of the 500 cases examined, 238 were recently notified cases, 218 contacts of those cases, and 44 were "request" cases.

Notified cases.—Under this class were 153 males and 85 females; amongst this number were 18 cases which proved not to be tuberculous, including patients suffering from carcinoma of the œsophagus, carcinoma of the rectum, syphilis, diabetes, nephritis with œdema of the lungs. One very doubtful case left the district whilst undergoing observation at the dispensary.

Of the 219 positive cases, 95 were of type I., 67 of type II., and 57 of type III. (Types I., II., and III. correspond to the Turban-Gerhardt classification.) Their after-history is shown in Table A:—

TABLE A.—*Notified Cases.*

—	Arrested.		Still under treatment.		Dead.		Left district untraced.		Total.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Type I.... ...	26	14	9	8	11	3	13	11	59	36
Type II. ...	5	0	7	4	19	12	15	5	45	22
Type III. ...	0	0	3	1	28	16	6	3	37	20

In addition to dispensary or domiciliary treatment, 61 cases of type I., 48 of type II., and 23 of type III.—in all 132 cases—were treated in sanatorium or hospital for periods varying from one month to one year, the average time being four months.

Contacts.—The majority of cases under this heading were children of school age, owing to the aversion of presumably healthy adults to attend for

TABLE B.—*Contacts.*

—	Arrested.		Still under treatment.		Dead.		Left district untraced.		Total.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Type I.... ...	7	7	2	3	1	2	3	2	13	14
Type II. ...	0	0	2	0	0	1	0	2	2	3
Type III. ...	0	0	0	0	0	0	1	0	1	0

TABLE C.—"*Request*" *Cases.*

Type I.... ...	5	1	2	0	2	1	0	1	9	3
Type II. ...	0	1	0	0	2	2	0	1	2	4
Type III. ...	0	0	0	0	4	0	0	0	4	0

examination; chiefly the more "weakly" contacts were seen—i.e., those who by reason of a cough or some indefinite ailment induced the parent to suspect the possible presence of tuberculosis. Many

more females than males made up this class, the former numbering 131 andthe latter only 87, and yet of the 33 cases which proved to be definitely positive 19 were males and only 14 females, 27 being of type I., 5 of type II., and 1 of type III., with after-history as shown in Table B. Only 7 contacts received sanatorium treatment owing mainly to the absence of beds available for children.

"*Request*" *Cases.*—Of the 44 cases sent for diagnosis (25 males and 19 females), exactly one-half were found to be tuberculous, 12 being of type I., 6 of type II., and 4 of type III. Their after-history is shown in Table C. 13 of these cases received sanatorium treatment.

The positive cases from all three classes taken together show the approximate percentages given in Table D.

TABLE D.—*Combined List of Positive Cases.*

—	Arrested.	Under treatment.	Dead.	Left district untraced.	Received residential institutional treatment.
Type I.	44·7	18·0	15·0	22·3	53·0
Type II.	7·7	16·4	46·0	29·9	70·0
Type III.	0·0	6·4	77·4	16·2	42·0

The comparatively small percentage of type I. recorded as having received residential institutional treatment is due to the considerable number of children in this class for whom no institution was available; nearly all these children had dispensary treatment. Only a proportion of the adult cases tabulated as "arrested" have been verified by examination at the tuberculosis dispensary, but in practically every case the person is doing full-time work (industrial or household) and is not in need of medical treatment. All doubtful cases were kept under observation at the dispensary for varying periods before a definite diagnosis was made. Tuberculin was not used either as a diagnostic or curative agent, in any one of this series of cases. Periodical visits were paid to each case by the tuberculosis nurse to advise and encourage the best practicable hygienic measures in the home.

It is regrettable that such a considerable number of cases left the district and cannot be traced, as these would have somewhat modified the figures under the headings of arrested and dead, but the large migratory population of the industrial district from which the cases under consideration were drawn has been further augmented by war-time and post-war conditions.

Conclusions.

From the above analysis the following conclusions may be drawn:—

1. That pulmonary tuberculosis may be cured if treated in its early stages.

2. It is only the early case that derives any permanent benefit from sanatorium treatment (with rare exceptions); hence the futility of clogging the sanatoriums with the more advanced type of case.

3. Much more strenuous preventive measures should be adopted—e.g., additional suitable open-air schools and institutions for very advanced cases.

4. There is a sad lack of suitable institutions for the tuberculous child.

5. A certain percentage of positive adult contacts must escape detection while the disease is yet in its early stage.

Though of limited scope, I have ventured to publish these statistics in the hope that they may be of general interest and possibly prove of some utility.

Note.—Many reports recently published from various districts do not show such promising results as those above recorded. In this respect it may be of interest to note that this district was one of the first to adopt the medical inspection of school children and also the feeding of necessitous school children, in addition to being one in which the National Insurance Act has been in working order since 1912.

UNUSUAL CASES OF INTESTINAL OBSTRUCTION.[1]

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IN the treatment of intestinal obstruction, whether acute or chronic, the surgeon must always be prepared for surprises, for there is probably no other department in the whole of surgery where the diagnosis of the underlying cause is so difficult to foretell. This is easily understood when one considers the manifold possibilities for mischief within the abdomen. Apart from purely intrinsic causes, the bowel may be impeded in its functions by many conditions of extrinsic origin. To enumerate these would take a long time, and I do not propose discussing them, since after all the exact diagnosis of the causal factor, in the vast majority of cases of intestinal obstruction, is only of academic importance.

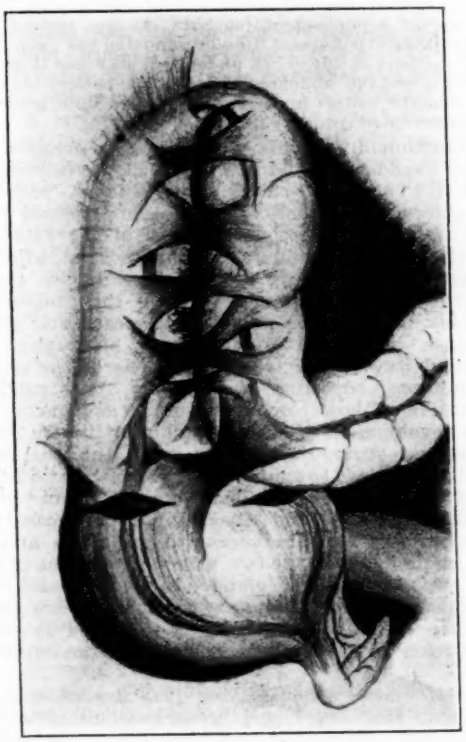
Some time ago I reviewed the numerous cases of intestinal obstruction that had come under my observation. They included many cases of exceptional interest, and, on summing up the series, it was rather surprising to find that in many instances the exact cause of the obstruction was only revealed at the operation. From the series I have chosen four cases to illustrate the difficulties with which one may have to contend, both in diagnosis and operative treatment. Two of the cases came under the care of Sir A. Mayo-Robson while I was his assistant, and I have to thank him for permission to record them. The other two occurred in my own practice.

CASE 1. *Acute angulation at the hepatic flexure from pericolitis; rupture of the tæniæ coli of the cæcum.*—The patient was a man, aged 62, who for some years had suffered from mucous colitis. On a recent visit to South Africa and Egypt he had been very ill from dysentery. When seen by Sir A. Mayo-Robson the patient complained of pain and discomfort in the lower abdomen, and stated that he was passing undigested food and mucus. The bowels were acting irregularly, and the patient noticed that with a morning action he had abdominal discomfort for the rest of the day. There was much less pain when the bowels acted in the evening, and he was always better when constipated. The patient came into a nursing home and the rectum and sigmoid were examined by the sigmoidoscope, but beyond undue redness and hypertrophy of the mucous membrane nothing abnormal was detected. Two days later he was suddenly seized with acute griping pain in the right iliac fossa, accompanied by marked distension in that region. There was some collapse, followed by slight rise of

[1] Abstract of a lecture delivered before the Fellowship of Medicine on Jan. 28th, 1920.

temperature and pulse-rate, and in the evening by vomiting. The distension was not relieved by enemata, so next morning operation was decided on. Up till now the symptoms pointed more to appendicitis than

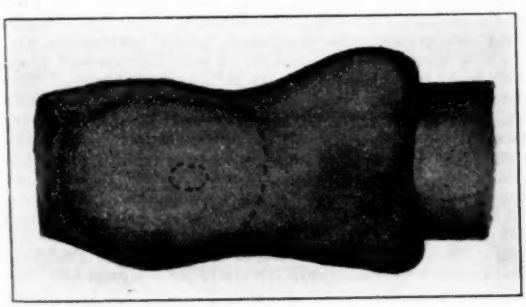
FIG. 1.



CASE 1.—Acute angulation at the hepatic flexure from pericolitis. Rupture of tæniæ coli.

to anything else. When the abdomen was opened a remarkable condition was revealed. (Fig. 1.) The cæcum was enormously distended and very inflamed, and at its junction with the ascending colon there were two transverse slits, each about an inch long, involving the peritoneal coat and the anterior and

FIG. 2.



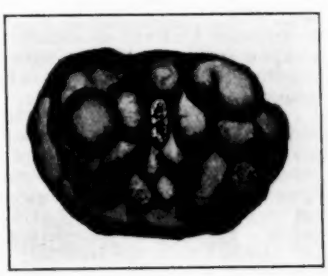
CASE 2.—Intussusception of the ileum secondary to polypus.

internal tæniæ coli. The circular fibres were intact, but the divided ends of the longitudinal bands were one-third of an inch apart. The abdominal incision was enlarged when the ascending and about 5 inches of the first part of the transverse colon were found bound together by adhesions, so that the general appearance resembled that of a double-barrelled shot-gun. These adhesions were confined to the wall of the gut, and did not extend to the peritoneal lining of the abdominal wall. At the hepatic flexure extreme angulation had been produced. The adhesions, some of which were very dense, were carefully separated, and the raw surfaces left were stitched over with fine chromic catgut. When the fused portions of the bowel were ultimately freed a few reefs were taken in the transverse mesocolon so as to bring this part of the gut into better line. The divided tæniæ coli were then sutured and the appendix, which was tortuous and somewhat distended, was removed. The abdomen was then closed. The patient made a good recovery, and obtained great relief from the operation. Two and a half years later he was still passing some mucus in the stools, but the abdominal pain had quite disappeared.

Similar cases of obstruction of the large intestine have been recorded, notably by Jackson, Pilcher, Arbuthnot Lane, Mayo, and Gerster, but this case is probably unique in that, added to the acute angulation at the hepatic flexure, two of the three tæniæ coli were ruptured. As these bands are shorter than the tube itself and keep the wall of the colon puckered, they were the first to give way during the acute distension of the cæcum. If the obstruction had not been relieved by operation the partial rupture would, doubtless, have extended and probably become complete. Much has been written on the ætiology of these constricting bands and adhesions, but this case seems to support Pilcher's view that they are the result of long-continued or oft-repeated mild infections of the peritoneal covering of the cæcum, colon, and appendix transmitted through the intestinal wall. Nowadays the extreme angulation would have been recognised by radiography after a bismuth meal, but at the time when the patient was under treatment that diagnostic method was in its infancy.

CASE 2. *Polypus of the ileum accompanied by chronic intussusception.*—The patient was a woman of 65, who for some months had been subject to recurrent attacks of pain in the right lower quadrant of the abdomen. These attacks had become more frequent and were usually accompanied by vomiting, abdominal distension, and constipation. The vomit was always bile-stained at first, but soon became foul, though never fæcal. A swelling was ultimately detected in the hypogastrium, so operation was advised. When the patient consulted Sir Arthur Mayo-Robson the swelling was smooth and ovoid, and was about 3 inches long. It was situated in the hypogastrium, to the right of the middle line, and was freely mobile. A diagnosis of tumour of the small intestine, probably malignant, was made. At the operation the tumour was found in the ileum 6 inches from the ileo-cæcal valve, but in addition there was a chronic intussusception immediately above. (Fig. 2.) The intussusception was about 2 inches long and the various layers were much hypertrophied but not discoloured. During reduction, which was easily performed, the tumour remained stationary; it was not attached to the apex of the entering layer, as is generally the case. Careful examination then revealed the fact that the growth was a polypus attached to the anterior wall of the ileum, midway between the mesenteric and free borders, so the bowel was opened by a longitudinal incision and the tumour delivered through it. It proved to be a large polypoid growth with a short narrow pedicle. The

FIG. 3.



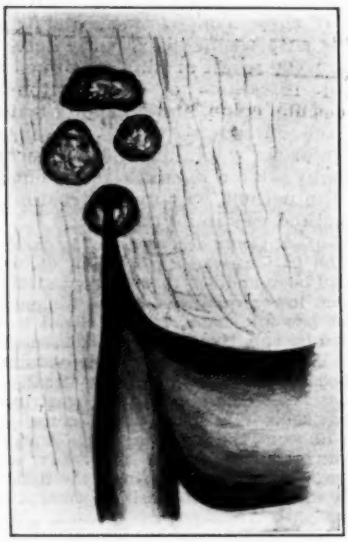
CASE 2.—Adenomatous polypus of the ileum.

latter was ligatured and divided and the bowel incision then closed by two continuous catgut sutures. The patient made a straightforward recovery and, happily for her, the polypus turned out to be of a simple character—an adenoma with a good deal of fibrous stroma. Fig. 3 shows the inner surface of the tumour with the pedicle. This surface was much lobulated, but the outer surface was smooth.

Single polypi of the small intestine are uncommon and in adults are often malignant. Not infrequently they produce intussusception, the polypus being found at the apex. In this case it was different. The intussusception was situated above the tumour and only the large size of the latter prevented the invagination from passing further down the bowel.

CASE 3. *Acute intestinal obstruction from traction diverticulum of the ileum.*—The patient was a man of 44, who had enjoyed good health until 12 years before, when he began to have recurrent attacks of abdominal pain, accompanied by vomiting. The pain, which was always of a griping nature, commenced behind the umbilicus and did not radiate. After a lapse of 12 to 18 hours there was profuse vomiting of bilious fluid. These attacks of sickness lasted for 24 hours and were sometimes relieved by taking a large dose of aperient. The griping pain usually subsided in three to four days. During each attack there was considerable abdominal distension. Ten years before I saw him (i.e., two years after the commencement of the recurrent attacks of pain and vomiting) the patient underwent an operation for acute appendicitis with abscess. The appendix was removed and the abscess drained. A weak scar resulted and the symptoms of pain and vomiting were not relieved; in fact, they became more frequent.

FIG. 4.



CASE 3.—Traction diverticulum of the ileum.

I first saw the patient with Dr. J. Henderson during one of these attacks, which had commenced 48 hours previously. Large quantities of bile-stained fluid were being vomited, and the abdominal pain was very severe. There was some general distension of the abdomen, and active peristalsis of coils of small intestine was plainly visible. I diagnosed obstruction of the small intestine, and advised that the abdomen be opened through the long weak appendectomy scar, for I considered that adhesions resulting from the appendicitis might be the cause of the trouble. The patient was removed to a nursing home and I operated the same afternoon. The weak scar was excised and the cæcum found attached to the anterior abdominal wall by some frail adhesions. It was, however, collapsed, so it was freed and search made for the obstructed part. The lower ileum, which was also collapsed, was rapidly examined from below upwards. About 6 feet from the ileo-cæcal valve the bowel was acutely kinked from a traction diverticulum. (Fig. 4.) The diverticulum was about 2 inches long and was adherent at its apex to one of four calcified lymphatic glands near the root of the mesentery. On freeing the diverticulum the kink immediately straightened out. The diverticulum appeared to be composed of all the coats of the intestinal wall, somewhat attenuated at the apex, but as it spontaneously contracted when it was freed I did not excise it, but contented myself with burying it by means of a purse-string suture. As the patient was very ill I did not spend time in removing the glands. A rapid repair of the weak abdominal scar was then performed and the abdomen closed. The patient obtained immediate relief from the operation and made an uninterrupted recovery.

Traction diverticula are of rare occurrence, but they have been found in all parts of the alimentary tract. They are small funnel-shaped pouches, produced by retraction of chronic localised peritonitis, by cicatrices in the wall of the intestine itself, or by inflammatory processes in adjacent organs. Adhesion of the bowel wall to a tuberculous lymphatic gland is one of the commonest causes. As Treves points out, mesenteric gland disease may lead to intestinal obstruction in various ways. The local peritonitis in the serous membrane covering the glands may produce adhesion of bowel or omentum, or may encourage the development of bands which may in turn cause intestinal strangulation. Or, again, the local peritonitis may lead to adhesions between the two limbs of a loop of intestine or between two remote parts of the intestinal tube. In Hilton Fagge's case the sigmoid was found adherent to the ileum and in the angle between the two attached portions of the gut was a caseous gland. In other cases the shrinkage of the mesentery after extensive gland disease was so pronounced and produced so much distortion as to cause obstruction of the adjacent bowel.

In the case which I have just described it is probable that the bowel became adherent to the gland early on in life, and that the diverticulum formation was a slow process produced by sagging of the intestinal loop. Obstructive symptoms appeared when the traction was sufficient to cause kinking of the gut.

CASE 4. *Strangulation of a loop of ileum by an adherent appendix epiploica of the sigmoid.*—The patient was a woman of 64, whom I saw in consultation with Dr. Edward Gregg. Two nights before she had been suddenly seized with severe pain in the lower abdomen, followed by profuse vomiting. Opium was given to relieve the pain and sickness. The patient was seen by Dr. Soltau Fenwick, who found a tense swelling in Douglas's pouch. He diagnosed pelvic peritonitis, and advised immediate operation. I saw the patient when she had been removed to a nursing home. The abdomen was rigid and tender but not distended. The tongue was furred. Pulse 120; temperature 100° F. On opening the abdomen by a subumbilical incision the pelvis was found filled with blood-stained fluid. This was quickly mopped up, when a coil of gangrenous small intestine presented in the wound. On passing the hand into the pelvis this gangrenous loop was found tied down by a band passing from the lower part of the sigmoid flexure to the bottom of the pouch of Douglas. The band was clamped, divided, and ligatured. As the proximal ligature was being passed, the band was examined and proved to be an attenuated appendix epiploica. The obstructed loop was now easily brought out through the incision. The ensnaring band had formed a marked constriction in the bowel wall and mesentery, but the gut above was not much distended, so I decided to excise the gangrenous loop and perform an end-to-end anastomosis. This was quickly done and the abdomen closed, a drainage-tube, passing down to Douglas's pouch, being left in the lower end of the wound. The patient made a splendid recovery, and the incision healed without any suppuration.

Many such cases of intestinal strangulation by appendices epiploicæ have been recorded. In Hulke's case an epiploic appendage from the sigmoid flexure was attached to the pelvic peritoneum near the right sciatic notch, and beneath the arcade so formed a loop of bowel had been strangulated. In another case, described by Holmes, an appendix epiploica formed a fatty fibrous ring around a loop of the lower ileum. As to what caused the adhesion of the appendage to the pelvic peritoneum in my case it is impossible to say. At first I thought I was dealing with a case of sacculitis of an epiploic appendage, but on examination there was no evidence of this. The appendage was long and fibrous, and did not appear to be patent. In sacculitis the appendage is usually hypertrophied and fatty, and often has a bulbous tip in which fæcal material becomes lodged and produces inflammation.

Harley-street, W.

A CASE OF
COMBINED AORTIC AND MITRAL REGURGITATION
WHICH LASTED OVER 30 YEARS.

BY W. GORDON, M.D. CAMB., F.R.C.P. LOND.,
PHYSICIAN TO THE ROYAL DEVON AND EXETER HOSPITAL; PHYSICIAN TO THE WEST OF ENGLAND EYE INFIRMARY.

THE prognosis of aortic regurgitation has been variously stated. One well-known authority could not remember the survival of anyone suffering from it for 15 years, whilst other authorities, equally well known, recorded survivals for 20, 25, or 30 years. Such discrepancies seem only explicable as the outcome of local differences in the general expectation of life, showing themselves incidentally in sufferers from cardiac disease. A few years ago, with this possibility in mind, I undertook to investigate the differences in longevity in the registration districts of England, and found them to be remarkable. In Leeds, where the shorter survivals above mentioned were recorded, only 6 per cent. of the population reached the age of 75 and over, whereas in some of our Devonshire districts, such as Axminster and Crediton, 25 per cent. attained them.

Advantages of South East Devon for Cardiac Cases.

I have repeatedly drawn attention to the advantages in cardiac cases of the crescent of country which reaches from Lyme Regis to the Start, an area which should be spoken of as South-East Devon. In this area acute rheumatism is rare, level reaches are available, general longevity is notable, whilst relative warmth and equability of climate, shelter from strong and cold winds, abundant sunshine, moderate rainfall and dryness of subsoil, combine to protect from lung and kidney complications. Probably the long survival of the case I am recording has owed something to these local advantages.

For whatever may be held to be the general prognosis in uncomplicated rheumatic aortic regurgitation, there is now a consensus of opinion that the outlook is made worse by the coexistence of mitral regurgitation. I do not know of any instance in the literature of such prolonged survival of a patient with both these lesions. It would be interesting to know if such cases have been observed, for it was formerly thought by some that the presence of coincident mitral regurgitation lessened, instead of increasing, the risks of aortic regurgitation, a view, however, which has been long discredited.

The Case Described.

K. E., aged 24, a very intelligent girl, came under my care as an out-patient at the Royal Devon and Exeter Hospital in January, 1891, with aortic and mitral regurgitation. Her heart disease dated, she said, from a severe attack of rheumatic fever two and a half years previously, which, together with a relapse, kept her in bed for 15 weeks. This had been her only attack of rheumatism, and, I should add, that it remained so.

On March 10th, 1892, she came into hospital with a bad gastric attack following "a cold." Her heart's apex beat was then noted to be in the fifth intercostal space in the left mammary line; there was a well-marked aortic regurgitant murmur, and a well-marked mitral regurgitant murmur conducted backwards towards the axilla; the lungs and kidneys were normal; she had slight œdema of the ankles. On May 11th she was made an out-patient again, and as such remained under my care for several years on and off; later, having improved in general condition, she was only seen by me at very long intervals until her final illness at the end of 1918.

On Jan. 22nd, 1908, I made this note: "There is still the same tight gripping pain, palpitation and dyspnœa, with occasional faintness, but not worse than 15 years ago." The pulse was 72, not "water-hammer." The apex beat was in the sixth space, 1 inch outside the left mammary line; the right edge of the cardiac dullness was at the right edge of the sternum; at the apex a systolic as well as diastolic murmur was audible, at the aortic cartilage a diastolic murmur only; the second sound was nowhere accentuated; all these points were observed in the erect position. It was, I think, just prior to this date that she had strained her heart in nursing her uncle, an old and heavy man.

On April 4th, 1910, I made a further note. She was "much better" than in 1908. Her pulse was 80, very little "water-hammer" in character, but now there was some visible arterial pulsation in the neck up to the ears. She had palpitation "pretty often," but pain was only brought on by exertion. The heart was evidently a little larger; the dullness in the erect position reached rightwards 1½ inches, and leftwards 4½ inches from the midsternal line, the apex beat still being in the sixth space; the diastolic murmur was heard over the aortic cartilage, down the sternum, and at the apex, as before.

In December, 1918, I was called to her late one night, when I found her desperately ill, cyanosed, and fighting for breath, with a greatly dilated and hypertrophied heart acting tumultuously. I endeavoured vainly to induce her to come into hospital, and in January she died. Her life had been by no means an idle one; except for the one considerable strain of nursing her uncle, already mentioned, it had been free from physical overstress, but it was full of active and valuable work.

Remarks.

Points to which I would draw attention are, that the case was uncomplicatedly rheumatic, dating from her single attack of acute rheumatism at 22; that she was otherwise healthy, with no lung or kidney complications; that, for the most part, her work was free from physical strain; that she successfully avoided further rheumatism; that the degree of aortic regurgitation was probably slight for a good many years, since "water-hammer" pulse and pulsation in the neck were absent for that time (remembering, however, the influence of coincident mitral regurgitation in modifying the pulse); that præcordial pain, palpitation, and dyspnœa on exertion, with occasional faintness, were present almost throughout; and that so long as 11 years before her death the apex beat, in the erect position, was already in the sixth space, and 1 inch outside the left mammary line.

THE PLATING OF SIMPLE FRACTURES.

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LATE CONSULTANT SURGEON, ARMY OF THE RHINE.

SINCE there has been such a unique opportunity of testing the value of various methods of treatment of fractures during the past few years, I thought it might be of interest to record my own experience. It is more especially to the treatment of the simple fractures that I intend to confine my attention in this article, because of their greater frequency in civil life, and also because of the division of opinion still existing as to the best method of treatment.

In the first place I do not think it can be impressed too deeply on the student of surgery, or on the public at large, that a fracture is a difficult thing to deal with efficiently. The war has brought forward many new ideas on the treatment of fractures, and devices for the accurate splinting of limbs, and the work of Sinclair and others will be of lasting value, so that we may hope that in the future each fracture will be treated on its own merits, and that the era of the pattern splint, hopefully tied to a fractured limb, has passed.

Principles and Methods of Treatment.

In the treatment of any fracture there are two main principles that must be constantly kept in view: (1) that the bone must be restored, as far as possible to its original anatomical line; (2) that the joints above and below the site of fracture must have their complete function maintained.

It is true that very occasionally a good functional result may be obtained with an imperfect union of bone, but this in no way alters the main truth that the more perfect the reduction to the original anatomical line the more complete is the return of function. It must be remembered, also, that the restoration of the soft structures to their original position entirely depends on the reduction of the bone.

The two principles enunciated above are entirely interdependent. The movements of the neighbouring joints are often hindered by the misplacement of structures at the site of fracture, in the lower limb especially, where the bones bear the strain of the body-weight; any deviation of this strain, through faulty position of the bone, sooner or later causes changes in the joints. (Lane.)

There are two main methods of treatment for simple fractures:—

(1) The method of accurate splinting with extension, suspension, &c.[1]

(2) Operative treatment. Under the best circumstances a severe simple fracture presents a difficult problem. I believe that if the soft structures are destroyed sufficiently to allow of the effects of tension a complete reduction of the fragments may be obtained by non-operative measures. In order to achieve success the necessary equipment is essential, and much mechanical ingenuity and application may be required to deal with each fracture and overcome its particular difficulties. On the other hand, the effusion of blood into closed fascial compartments with little or no destruction of the soft parts offers almost solid resistance, and renders immediate even eventual reduction extremely difficult, and cases where the displacement is severe, almost impossible.

[1] See article, British Journal of Surgery, vol. v., N

Therefore, in those cases of simple fracture, when an attempt at non-operative treatment has failed, operative treatment should be advised without delay. The operation of choice is that of plating, as evolved by Sir Arbuthnot Lane. I am advocating this method for the treatment of simple fractures. The question of plating compound fractures is an entirely different one, rarely arises in the early stages of their treatment and in the later stages only with full recognition of possible consequences.

Certain Objections Answered.

The main objections which have been brought against the operation of plating simple fractures, and have prevented its adoption as a routine method are: (1) that there are risks of sepsis; (2) that the plates and screws cause various after-effects and may have to be removed.

To avoid any risk of even the mildest infection, immediate or remote, the precautions insisted upon by Sir Arbuthnot Lane must be strictly adhered to by the surgeon and his assistants. The ultra care to be taken during the operation is absolutely essential to success. Apart from the actual technique which has been frequently described, there are one or two further considerations for the avoidance of infection which appear to me of importance.

The first, perhaps, is that of space. The initial incision should be of sufficient length to enable one to gain free access to the disturbed fragments and eventually to permit the introduction of a long plate. The muscles and periosteum are separated from the bone for the whole length of the incision. Lack of space renders manipulation with the large holding forceps and the insertion of the plate most difficult, with the consequence that the soft structures are apt to be lacerated, thus increasing the liability to continuous oozing afterwards and the risk of bacterial invasion.

The avoidance of post-operative bleeding and a hæmatoma which may leak through the wound and become mildly septic is most important. All bleeding points are at once seized by large hæmostat forceps, and these are left in situ till the end of the operation. It is rarely necessary to use ligatures, and they should be avoided as far as possible, as their absolute sterility is uncertain, and their application involves a definite risk of the fingers coming into contact with the wound. Bleeding tends to be most troublesome after operations on the femur. I believe it is better in these cases, after the insertion of the plate, to sew together the cut edges of the muscle and fascia by catgut sutures to assist in the arrest of bleeding, which sometimes is apt to continue.

When by manipulation the fractured ends of bone have been restored to their original position, the plate inserted should be of sufficient strength and length to secure the fragments firmly. There should never be any fear that shifting of position may occur afterwards. The plate is inserted with the idea that it shall remain in situ permanently, and it is no detriment when it has been properly applied and the operation has been absolutely aseptic. Occasionally, however, a plate has to be removed, and the most common reason for this is that it becomes loose. As a rule, this is due to faulty technique. The greatest care must be taken that the plate fits the bone accurately, so that the strain to maintain the fragments in position is divided equally between all the screws, and that no unequal strain is thrown on one or two; otherwise the screws that are strained will sooner or later become loose and the plate will separate from the bone. Another important detail is that the drill used is of suitable size, of a finer gauge than the screw. In this connexion I have found that, although more tiring to the surgeon, it is better to use a hand rather than a wheel drill as a more accurate idea of the density of the bone is obtained.

I do not agree with the statement sometimes made that the mere presence of the screws tends to cause

rarefaction of the bone immediately around them. If this were the case every screw and the plate would become loose, and they do not. In the examination of a number of X ray photographs taken a considerable time (up to seven years) after the operation, it was impossible to detect any change round the majority of screws.

It is important that weight should not be borne on the limb until sound union has occurred, otherwise an undue strain is thrown on the plate and screws which tends to loosen them. There is no doubt that callus formation is small in amount when the fragments are completely immobilised in apposition; consequently sufficient time should be allowed for complete union to occur. It is impossible to state definitely when union should have occurred in any particular fracture; each case must be judged individually.

All these details have been pointed out and insisted on by Sir Arbuthnot Lane, but they bear repetition, since they are so essential to a good result. I have omitted, deliberately, to discuss sepsis as a cause for removal of the plate. I can only state that sepsis should not occur, and that in my own experience of a considerable number of cases I have not encountered it.

In those cases where of necessity the plate is immediately subcutaneous, such as the clavicle and lower end of the fibula, it may be advisable to remove the plate when it has fulfilled its function and union is complete. Such plates are palpable under the skin, and are noticeable to the patient, and tenderness may be complained of from pressure of the clothes. Although the removal of the plate entails a second operation this is a small price to pay for a good result.

It is stated sometimes that the permanent presence of the plate causes the bone to become tender and to ache. This has been attributed to the fixation of a rigid metal plate to a resilient bone. There is no doubt that owing to altered circulation at the site of injury all fractures, recent or old, occasionally ache after exercise, or during changes in the weather, but I have not been convinced that the presence of a plate increases this, unless it has become loose or is subcutaneous. Now and then, by the more highly educated or perhaps more-sensitive patients, a request is made that the plate should be removed when its function is completed, as a knowledge of its existence gives them a feeling of abnormality. It is the exception, however, for any further interference to be necessary when the original operation has been performed efficiently.

After-treatment.

After the actual operation is finished I always place fractures of the femur and tibia in a Thomas hip-splint, preferably jointed or slightly bent at the knee.

The limb is completely immobilised in the splint by cross-straps, and the foot, slightly dorsiflexed, is suspended from a metal archway or secured to a Sinclair foot-piece. The whole splint is then suspended in a frame by means of weights and pulleys. This arrangement gives the patients a wide range of movement, and at quite an early stage enables them to be sat in a chair without disturbance to the limb, while from the nursing point of view these otherwise difficult cases are readily moved and lifted without fear of pain to the injured part. There is, as a rule, fairly severe pain for the first 24 hours after the operation, but afterwards the patients are comfortable and do not become enfeebled through forced inactivity.

Fractures of the upper limb, after operation, are fixed on a Thomas arm-splint with a movable joint at the elbow, or on some suitable wooden splint, but the latter, I think, should be confined to fractures of the lower forearm. Whatever splint is used, the hand and fingers are allowed a certain freedom, so that some movements may be commenced about the second day.

The fractured limb is not touched until the tenth day, when the wound is dressed and the skin-clips are removed. After this the cross-straps are less firmly applied, so as to allow of some movement in the splint. At the beginning of the third week general massage of the whole limb is commenced (it is wise, perhaps, to avoid massaging over the actual wound for a little longer), and active and passive movements of the joints, very gentle at first and gradually increasing, are begun. For the purposes of massage the limb remains in the splint, the cross-straps only being undone and afterwards refastened. As a general rule, by the end of the third week the lower limb may be left entirely free in the splint, so that greater activity may be encouraged; and in cases of the upper limb the splint may be discarded for an increasing time each day. In cases where there has been much comminution of the bone it may be thought wiser to delay much active movement, but usually massage can be commenced with safety in the third week, however severe the fracture has been.

In cases of fracture of the lower limb it is possible almost at any stage after the wound is healed to supply some form of ambulatory splint which allows no strain whatever to fall on the site of fracture and permits the patient to walk with crutches. My own feeling is, however, that it is safer to wait until it is sure that union is strong. The freedom of movement permitted in bed by this method of splinting and suspension counteracts to a great extent the necessity for getting the patients up, and an occasional accident may be caused through anxiety to allow the patient to walk. Although it is practically always possible to permit cases of fracture of the upper limb or clavicle to get up at an earlier stage than those with fractures of the lower limb, judgment of the individual case must here again be exercised.

In conclusion, I am indebted to the medical authorities of the Army of the Rhine for permission to publish this article. I wish to thank also Sister J. Strachan, Captain F. Harlow, R.A.M.C., and Captain H. E. Grey, R.A.M.C., whose skilful assistance made these operations possible.

[Skiagrams showing the excellent results obtained in 9 of the above cases were submitted.—ED. L.]

Devonshire-place, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

EXTRACTION OF A SEWING-NEEDLE FROM THE HEART.

BY ZACHARY COPE, M.D., M.S. LOND., F.R.C.S. ENG.,
SURGEON TO THE BOLINGBROKE HOSPITAL; SURGEON TO OUT-PATIENTS, ST MARY'S HOSPITAL.

IN the case described below the slight evidence of pain caused by a needle in the cardiac substance was remarkable. Though the cardiac muscle differs in structure from that of the intestine, yet it is involuntary and may resemble the intestinal musculature in absence of sensitiveness to tactile stimuli. The sensitiveness to the stimuli of stretching due to distension of the enclosed cavity is common to both. It was evident that the needle had travelled in the cardiac substance. From a consideration of the point of entry into the chest wall and exit from the heart it must have moved about [illegible] inches, presumably through the substance of the right ventricle. It almost appeared as if it were being extruded from the viscus. It is an interesting speculation as to what would have been the course of the needle had it been thus extruded. When the pleura was opened the heart fell away

from the chest wall, and swayed violently to and fro with each respiratory movement. After about five minutes, however, the swaying lessened considerably, and the heart took up a position slightly nearer the chest wall. No disturbance was noted when the pericardium was gripped with a Spencer-Wells forceps.

Account of the Case.

A girl, 7 years old, was admitted to the Bolingbroke Hospital on March 2nd, 1920, with the history that a sewing-needle had been accidentally pushed into her chest. The place of entry was about an inch to the left of the sternum at the level of the upper border of the fourth costal cartilage. The house surgeon, under local anæsthesia, attempted to extract the needle; he cut down deep to the fibres of the pectoralis major and saw the extreme end of the needle in the depth of the wound. He was unable to grasp it, and the end completely disappeared whilst he was attempting to catch hold of it. He stated that it appeared to be sucked into the chest with each respiration.

I saw the child the same evening. Under the X rays the needle could be seen lying obliquely on a level with the fourth costal cartilage. It moved freely and completely with each heart beat, and it was clear that it was embedded in the heart. A general anæsthetic was administered by Major G. B. Lowe, and a slightly curved incision was made so as to expose the fourth and fifth left costal cartilages from which the muscular fibres were detached. About an inch of the fifth costal cartilage was removed, the portion resected being just internal to the vertical nipple line.

The pleura was opened, and for a time the swaying of the mediastinum and the cardiac pulsation made accurate observation impossible. The position of the needle had been observed from time to time during the operation by means of the fluorescent screen, and it was noteworthy that after the opening of the pleura the level of the shadow immediately became considerably lower than before. The mediastinal swaying gradually became less in extent, and by means of a good light it was possible to see about a quarter of an inch of the needle protruding near the left cardiac border. In order to steady the heart the pericardium was grasped by a Spencer-Wells forceps, and a similar forceps was passed into the pleural cavity so as to grasp and extract the needle. The parietal pleura could not be sewn, but the soft parts were brought together by two rows of catgut sutures, and the skin apposed by silkworm gut. The child stood the operation well, and the pulse-rate was neither irregular nor increased in rapidity at the end of the operation. The needle was 1⅝ inches in length.

When the child left hospital on March 22nd the wound was soundly healed, the left-sided pneumothorax was completely absorbed, and she felt perfectly well.

A DICEPHALOUS MONSTER.

BY M. Z. SHAFEÏ,
MEDICAL OFFICER, MANSOURA, EGYPT.

THE following case may be of some interest.

I was called at 7 A.M. on Feb. 24th to a woman said to have been in labour for three days. On arrival I found the patient (aged 20) in bed looking well. The history I got from her and from the midwife was that she had felt pain in the back and abdomen three days ago, and the midwife felt a head presentation. The head presented in the vagina for 24 hours. The midwife stated that she pulled the head as hard as she could but nothing more presented.

On examination I found a multiparous woman. Temperature normal, pulse 95, but not weak, and face not anxious. I felt a hard tumour in the right side of the true pelvis, and she complained of pain in the right thigh. Head and neck were outside the vagina, and the face was very congested. No pulsation felt in the facial artery, and no fœtal heart sounds heard. After evacuation of a full bladder and rectum I felt the shoulders filling the whole breadth of the pelvis. I tried in vain to move them to one side, but finding it impossible to pull down more than one arm, I decapitated the head, dislocated the arm at the shoulder, and did a version. On pulling the leg it disarticulated at the hip; then, helped by the pains, all the body came down and, to my astonishment, another head and neck was delivered, followed by the placenta. I douched the patient with lysol and gave her 10 c.cm. of antistreptococcal serum.

The condition of patient three days after was very good. She had no hæmorrhage and no rise of temperature, no tear in the perineum, and she promises, as I write, to continue a normal puerperium.

Dicephalous monster, male, with one thorax but two fully developed heads.

On examining the fœtus, I found it to be a male dicephalous monster, with two heads and necks, as seen in the appended photograph. The heads are fully developed. The monster was alive till six hours before delivery, as the patient felt its movements; one head was presenting. Although there is only one thorax, there are two vertebral columns, easily separable, reaching down to the sacrum. The two tracheas unite as one tube at the top of the thorax. There is one set of viscera in the thorax and abdomen. There is an imperforate anus and a phimosis. The testes are in the scrotum, which is bigger than normal and looks like two labia. The hair is well developed on both scalps. The length is 46 cm. and the weight 5 kg. The diagnosis was impossible and the treatment was circumstantial.

A CASE OF HYPOSPADIAS PERINEALIS.

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THE patient here described had the anatomical characteristics of a man, but was brought up as a woman and was known by a feminine name, Punchi Nona. He was unmarried, and lived with and was supported by his sister's son. He was admitted into the female Diarrhœa Ward of the General Hospital, Colombo, on Nov. 24th, 1919, with anæmia, œdema of legs, and breathlessness of six months' duration, and died on Dec. 1st, at the age of 50, of uræmia due to chronic parenchymatous nephritis.

General appearance.—As shown in photo, with slight growth of hair on the chin and over the upper lip, larger growths in the armpits, slightly prominent pomum Adami, pyramidal growth of hair over the pubes, and deep and manly voice.

External genitalia.—The penis is small, imperfectly developed, looking not unlike a hypertrophied clitoris, adherent on either side to the scrotal integument, with no meatus urinarius. The scrotum is cleft, looking like the labia majora; the right half contains a testis, the left half is empty. The other testis was found in the left inguinal canal, together with a semi-solid blue mass close to it of the shape and size of the testis, due to phlebectasis of the veins of the pampiniform plexus. This mass was punctured by accident.

Urethra.—The lower wall of the urethra is defective as far back as the perineum, which condition, with the cleft scrotum, looks like the vulva. The sinus urogenitalis, thus presented, is wide and deep, about an inch in length, and opens directly into the bladder. The patient used to micturate in the squatting position.

FIG. 1.—Pseudo-hermaphrodite, with male characteristics but brought up as a female.

Post-mortem examination.—The only pelvic organ was the bladder, the wall of which was thick, the mucous membrane slate-coloured and thrown into folds due to cystitis. The pelvis showed characteristics usually considered to indicate a male pelvis.

Microscopical examination.—The genital glands show the structure of the testis.

FIG. 2.—External genitalia, showing small imperfectly developed penis, without meatus, and cleft scrotum.

In 910 cases of pseudo-hermaphroditism collected by Neugebauer there were 722 of the masculine variety and only 188 of the feminine variety; and 613 of the whole series were examples of pseudo-hermaphroditismus masculinus externus.

Medical Societies.

PATHOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.

A MEETING of this society was held in the Institute of Pathology, Charing Cross Hospital, on March 26th and 27th, with Dr. W. W. C. TOPLEY in the chair.

Dr. E. H. KETTLE described the Histological Changes in Five Spleens which had been removed by operation in cases of "splenic anæmia." The anatomical changes were very diverse, one being of the Gaucher type, one, perhaps, early Hodgkin, one possibly tuberculous, and the other two indefinite. There is evidently much room for further work in differentiating the various types of splenomegaly associated with secondary anæmia.

Dr. W. MACADAM (Leeds) pointed out how the downgrowth of epidermis and the formation of cell nests in both tuberous and ulcerating forms of oriental sore (leishmaniasis) might give a remarkable resemblance to epithelioma.

Professor M. J. STEWART (Leeds) and Dr. J. A. C. FORSYTH described the formation of massive deposits of cholesterin in two cases of Long-standing Mastitis.

Dr. J. G. GREENFIELD showed an example of Multiple Neurofibromatosis with Tumours on the Cranial, Spinal, and Peripheral Nerves, with some beautiful drawings of the organs.

Dr. H. CHAMBERS, Dr. G. SCOTT, and Mr. S. RUSS described experiments showing that an accurately measured dose of X rays increased the susceptibility of rats to the implantation of a spontaneous rat carcinoma. They had succeeded by this means in bringing into cultivation a tumour which was not transplantable in normal animals. An unsuitable dose might increase resistance.

Mr. S. W. COLE (Cambridge) demonstrated improved methods of estimating sugar in blood, hydrochloric acid in gastric contents, and non-proteid nitrogen in blood.

Dr. J. O. W. BARRATT discussed some of the physical considerations underlying the formation of fibrin.

Dr. C. PRICE-JONES described remarkable diurnal variations in the size of red blood corpuscles, and said that on the average they were about 0·5 μ smaller on first waking in the morning than at midday. He showed that the variations were related to the reaction of the blood, that violent exercise caused swelling, and forced breathing shrinking.

Professor A. E. BOYCOTT pointed out the great rapidity with which the injection of lactic acid into the circulation was compensated, and questioned whether, in view of all the evidence that the blood persistently maintains its normal composition, it was likely that small changes of body reaction could be detected by blood examination.

Dr. A. G. GIBSON (Oxford) described a new streptothrix, pathogenic to monkeys, which he had isolated from the spleen removed during life from a case of acholuric jaundice.

A paper by Dr. J. W. MCLEOD (Leeds) on his experiences on the isolation of Pfeiffer's bacillus from cases of influenza gave rise to an animated discussion on the ætiological rôle of this organism, in which Drs. J. S. Dunn, W. E. Carnegie Dickson, F. W. Andrewes, R. Muir, S. L. Cummins, J. O. W. Barratt, W. d'Este Emery, J. Ritchie, C. J. Martin, J. A. Murray, H. R. Dean, J. M. Beattie, and W. W. C. Topley took part. Opinions were about equally divided as to whether the "influenza bacillus" could be considered to be the cause of "influenza" or not, and it was generally felt that the problem would be easier to solve if both the bacillus and the disease could be more closely delimited and defined.

Dr. TOPLEY and Dr. H. B. WEIR showed that identical lesions may be produced in the joints and hearts of rabbits by the intravenous inoculation of streptococci obtained from rheumatic and non-rheumatic cases.

Dr. A. F. S. SLADDEN (Swansea) showed two cases of Chorion-Epithelioma, one in a double uterus.

Dr. W. E. CARNEGIE DICKSON detailed the discovery of mites in the urine in two persons.

Dr. C. J. MARTIN discussed the Adjustment of the Reaction of Media, and pointed out that an appearance of spurious accuracy was liable to be given by some of the methods in current use owing to the failure to take into consideration the slow precipitation of tri-calcium phosphate in weakly alkaline solutions, the solubility of soft glass, the carbon dioxide in the air, and the temperature of incubation being substantially different from that of titration. Extreme precision being unnecessary and almost impracticable, he described a simple plan which gave consistent and satisfactory results.

Dr. TOPLEY and Dr. G. S. WILSON showed a Counting Chamber for Bacteria with a dark-ground condenser; and Mr. J. E. BARNARD gave a demonstration of some of the higher flights of microscopical technique.

Dr. J. A. ARKWRIGHT described cultures of Shiga's and other bacilli which apparently consisted of two components, differing markedly in their mode of growth and in their agglutinability by salt and specific sera. He left it uncertain whether the phenomena were the result of mutation or of selection.

Mr. N. C. LAKE showed the method of cultivating tissues in vitro and some results obtained.

Professor C. H. BROWNING and Dr. E. L. KENNAWAY gave the results of an analysis of over 2000 quantitative Wassermann tests, and proposed the following criteria: taking the amount of complement which gives complete hæmolysis in the negative control as 100, positive reactions are those which require more than 200 complement, negative those taking less than 150, the intermediate zone being regarded as neutral.

Dr. T. TANIGUCHI described a number of curious observations on heterogenetic antibodies—i.e., the sheep hæmolysins produced by injecting, for example, an emulsion of guinea-pig kidney into rabbits—and showed their specific relations to the tissue lipoids. He also pointed out that the sheep immune body which is sometimes present in human serum might give rise to an erroneously positive Wassermann test if an extract of guinea-pig heart was a component of the reaction.

Dr. F. GRIFFITH and Dr. W. M. SCOTT formulated proposals for improvements in the technique of the Wassermann reaction.

TUBERCULOSIS SOCIETY.

THE SYMPTOMATIC TREATMENT OF THE ADVANCED CASE.

AT a meeting of this society, held at the rooms of the Medical Society of London on March 29th, Dr. H. BATTY SHAW opened a discussion upon this subject. Nowadays, he said, owing to the establishment of tuberculosis dispensaries he did not see nearly so many advanced cases as previously. At present clinicians were engaged chiefly in discussions over doubtful cases, and the advanced case, which should be the chief care of the hospitals, was being turned away. In doing this the case was placed under that very unsatisfactory system called "domiciliary treatment." Consumption the result of secondary infection was one thing; advanced tuberculosis another. The treatment of consumption was at present futile, but this might to a great extent be prevented from occurring by prophylactic vaccine, inoculation against the secondary infection, combined with fresh air and hygiene. The tendency now was to concentrate upon the early case, but we should "put the clock back," and make the advanced case our special care. Hospitals were needed in each area where treatment and nursing could be provided and the case remain indefinitely. For those who did not need hospital treatment, domiciliary treatment on much improved lines should be provided. In dealing with special symptoms he did not think it advisable to keep the advanced case in bed indefinitely; many patients were better up and about. He allowed patients to eat what they liked, with, if possible, a preponderance of fat. The *appetite* could be improved by mixtures containing gentian and soda, gentian and acid, phosphorus and strychnine, and in some cases malt. Alcohol was not detrimental; as an appetiser it did good. *Cough* which disturbed *sleep* should be controlled, and he gave opium in large doses for this: small doses were useless. He recommended pil. ipecac. c. scilla gr. x.; heroin, $\frac{1}{8}$ gr. as being useful doses. Menthol in 10 to 20 per cent. solution used as a spray was often very valuable. The morning cough was made easier by a good drink of warm milk. For vomiting without cough he gave hydrocyanic acid, bismuth, and morphine. *Hæmoptysis* was treated with morphia, turpentine inhalations, and ice to suck. These, although not definite hæmostatics, gave the patients something to do and drew their attention from coughing. Calcium lactate was useless. Artificial pneumothorax was of value in some cases. *Sweating* was best controlled by limiting the bed-covering. Drugs lost their value after a few nights, and antipyretics only falsely encouraged patients to the belief that improvement had taken place. *Diarrhœa* might be controlled by sulphuric acid and opium, bismuth and opium, or perchloride of mercury and opium. *Laryngeal pain* was relieved by a cocaine lozenge, $\frac{1}{8}$ gr., before food, or by a spray containing 10 to 20 per cent. cocaine. Leduc's tube with orthoform was not very satisfactory, as the powder rarely reached the larynx. Injection of alcohol into the superior laryngeal nerve in very advanced cases had been practised with good results. *Pleurodynia* was best relieved by iodine and belladonna. *Cavities* could often be emptied by posture, but care should be exercised lest fresh areas of lung should become infected by inspiration. Anæsthetics were on this account dangerous. *Pneumothorax treatment*, although not curing the disease, was of great value in relieving symptoms. He preferred the open operation, which allowed exploration of the pleural cavity to be done. Two cases treated at University College Hospital by this method were shown.

Dr. J. J. MACDONALD and Dr. S. P. N. PARSONS gave short accounts of the methods of treatment being practised at the Brompton and University College Hospitals.

Dr. HALLIDAY SUTHERLAND emphasised the need for more hospitals for advanced cases. The cause of much failure in domiciliary treatment and the imperfect notification of the disease was the inadequate remuneration of the panel practitioners. He had used creasote up to 40 minims three times a day, also colloidal copper, but with no beneficial results. He considered the simple puncture method of pneumothorax quite adequate.

Dr. JANE WALKER said that advanced cases should be allowed to work, even though life was thereby shortened. She did not believe in keeping these cases for endless periods in bed. Alcohol in reasonable quantity should be allowed. Soda and hot water were of benefit to bring up sputum and posture helped in some cases. She gave horse serum on four consecutive mornings fasting, and it had proved beneficial in hæmoptysis.

Dr. F. STANLEY TINKER did not think sufficient attention was paid to other organisms present with the tubercle bacillus. A recent case in which streptococci had been found had made a remarkable recovery after 18 months in bed. Within a few weeks she was able to assume a normal life. He advocated better pathological facilities in each area, so that pathologist and clinician might work in coöperation.

Dr. W. BRAND described the discomforts which many patients in the advanced stages had to endure. Poverty should not be a bar to comfort, and we should rather parade common-sense than pure medicine. Even though we failed in the treatment of the advanced cases, we could, at any rate, make their lot easier.

Dr. A. SANDISON had found that many advanced cases were better for being up, and even fever in slight degree had vanished. This might be due to the mental effect. He had not found any benefit from chlorine and potassium iodide.

Dr. JOHN SORLEY said that in his experience a case of hæmoptysis either died before any help could be given, or else it did not require treatment. Small hæmoptyses were beneficial in promoting fibrosis.

Dr. BATTY SHAW, in reply, said that the operation shown for pneumothorax offered facilities for dividing adhesions, and in this way tended to increase the percentage successes. He did not advocate the treatment of mixed infection by vaccine, but inoculation as a prophylactic against its occurrence.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

A MEETING of this society was held at Sheffield on March 19th, when Mr. Miles H. Phillips, the President, read a short paper on

Unilateral Pelvo-abdominal Pain due to Constriction of the Ureter.

The type of patient he had in mind, he said, complained of a localised and clearly described pelvic or pelvo-abdominal pain, intensified by menstruation, for which the most careful pelvic examination, or even abdominal exploration, could find no satisfactory explanation. By a study of three cases he showed that constriction of a ureter by scar tissue or other band was a sufficiently likely cause to warrant exploration with the cystoscope and ureteral catheter. The first case had pain in right iliac and lumbar regions, commencing three days after hysterectomy for a fibroid which caused post-partum hæmorrhage. Pain persisted although the general condition steadily improved. The bladder was examined a fortnight after operation, and the right ureter was seen to be acting less frequently, and ejecting a smaller stream of urine than the left. Further examinations later showed the right ureter apparently blocked. The abdomen was reopened and the affected ureter found dilated at the pelvic brim, and constricted about 1 inch from bladder by a tough fibrous cord containing vessels, and evidently resulting from tissue dragged inwards and included in the ligature round the right uterine artery at the previous operation. The division of the cord was followed by rapid recovery and no further pain. The second case was one of pain in left iliac and lumbar regions dating from confinement 17 years previously. There was menorrhagia and a pre-menstrual exacerbation of pain. No enlargement of left kidney; cervix deeply split on left side and firm scar in left fornix. The abdomen was opened and the left ureter found distended above a point opposite the cervix, where it plunged into a dense mass of scar tissue. The ureter was separated with difficulty, and hysterectomy was performed. The operation took place two years ago, and no pain had been experienced since. The third case was a single girl with pain in the right iliac fossa, commencing in 1914. Dilatation of cervix brought no relief. The right kidney was unduly mobile, and was fixed to fascia and muscles of loin 18 months later, but the pain continued. The abdomen was opened after a further interval of 18 months. The uterus, appendages, and vermiform appendix were normal, and the right kidney well fixed. There was extensive Jackson's membrane across the ascending colon, and strong peritoneal bands about the cæcum. The right ureter was bound down by a fibrous band, hardly more than a ridge of peritoneum, at a point 2 inches above pelvic brim. The band was divided and the patient completely relieved. In none of the cases was there any tangible enlargement of the kidney, but a hydronephrosis would probably have resulted had the obstruction not been removed. The symptoms complained of were those of early ureteric obstruction, and the fact that an increase in pain occurred before or during menstruation brought the cases under the care of the gynæcologist.

Dr. D. Dougal and Dr. J. W. Bride (Manchester) communicated a paper on

Factors causing Abortion: an Analysis of 100 Cases.

The paper was based on a clinical and pathological examination of 100 consecutive cases of abortion admitted to the maternity department of St. Mary's Hospital, Manchester. The authors pointed out that the work was in the nature of an experiment, and that a hundred cases formed too small a number on which to base authoritative results. They hoped, however, to continue the work along similar lines. The following conclusions were arrived at as a result of the investigation. (1) Abortion occurs most commonly between the third and fourth months. (2) It is comparatively uncommon in primiparæ; less than one-fifth of the series belonged to this category. Most women who abort have borne previous full-term children, and in most cases more than one. Frequent abortions in the same patient are uncommon and not necessarily due to syphilis. (3) As regards the factors producing abortion, accidental and reflex causes account for 18 per cent.; general disease of the mother, 7 per cent.; disease or displacement of the mother's genital organs, 12 per cent.; and gross abnormalities of the fœtus, cord, or placenta other than those due to hæmorrhage and infarction, 6 per cent. They considered that the importance of syphilis as a cause of abortion had been somewhat exaggerated. The Wassermann reaction was positive in 12 cases, but in half of these some other abnormal condition was present which by itself might have produced the abortion. In only one case were clinical signs of syphilis present, and in no specimen could typical syphilitic changes or spirochætes be demonstrated. They estimated at not more than 10, and probably nearer 8, the percentage of cases in which syphilis produces abortion. The percentage of self-induced cases was difficult to estimate, but was probably not less than 20 per cent. Ten patients in the series admitted that they had wilfully brought on abortion, and 8 of these employed lead pills for the purpose. In 30 per cent. of cases no cause could be assigned, and pathological investigation threw little additional light on the subject. It would appear, however, that the mother was at fault in the great majority of cases as the result of some diseased condition, whether of an organic nature or merely an increased irritability of the centres which preside over the expulsive action of the uterus.

ROYAL MEDICO-CHIRURGICAL SOCIETY OF GLASGOW.

AT a meeting of the society held on March 19th, Mr. A. Ernest Maylard, the President, being in the chair, Dr. Wm. Rankin reported (*a*) two cases of Ruptured Jejunum. (1) A man, aged 19, who had fallen from a scaffold, landing on his abdomen, presented no external abrasion, but was collapsed and in great pain, with a very rigid abdomen. Operation a few hours later revealed an almost completely transverse tear of the jejunum, which was sutured. Patient was dismissed well on twenty-second day. (2) A man who, having fallen down the hold of a ship and struck some beams in falling, presented a fracture of the crest of the ilium and blood in the urine. At operation seven hours later two tears were found in upper part of jejunum, which were sutured. Patient was seriously ill for four days, but ultimately made an excellent recovery. (*b*) A case of Diaphragmatic Hernia operated on through the pleural cavity. The patient, a boy aged 8, was run over by a motor-van, and presented bruising and a rigid abdomen. An exploratory incision above the umbilicus showed that the spleen and greater part of stomach had been displaced into the left pleural cavity through a large tear in the diaphragm. The abdominal wound was closed and an osteoplastic flap, including portions of two ribs in the axillary and posterior regions of the left thorax, was turned up to give free access to the pleural cavity. Through this the organs were replaced without difficulty and the tear in the diaphragm sutured. The patient was dismissed well after 25 days, and when seen at the meeting (5½ years later) showed no abnormality of the chest or lungs.

Dr. G. Herbert Clark reported "An Undescribed Condition of Infancy and its Treatment." The condition had been identified in two children, one of whom was now normal and the other slowly becoming so. The outstanding symptoms were idiocy, depression, fibrillary twitchings in the muscles, jerking movements of the limbs, convulsions, and inability to balance. The first patient had been apparently normal till the age of 4 months, when the fits and startings began. When first seen in 1910, at the age of 15 months, he had a well-formed and plump body, a large head with open anterior fontanelle, an abnormal staring, and apparently unseeing condition of the eyes, and presented all the symptoms mentioned above. Examination of the electrical reactions gave inconclusive results. Neither carpo-pedal spasms, Trousseau's nor Chvostek's phenomena were ever present. As the symptoms seemed to resemble those produced in animals by removal of the parathyroids, the effect was tried of feeding with thyroid gland tablets containing parathyroid as an impurity. On a dose of ½ gr. twice daily the child improved rapidly, was free from fits and twitchings after three weeks, and is now absolutely normal. The tablets were continued for six months and then gradually stopped. The second child was a girl, who had been fairly normal till about a year old, and then began to have twitchings, startings, and convulsions, with apparent indifference to surroundings and growing depression. When first seen in September, 1919, she was 2½ years old, well formed, plump, with satisfactory dentition, but the anterior fontanelle not quite closed. Symptoms were similar to those in the other case. On Oct. 16th the child was put on parathyroid tablets 1/10th gr. twice daily; fits, startings, and twitchings at once began to diminish and quite ceased by Oct. 24th. The child improved in alertness, took notice of her surroundings, played with toys, and could sit up and even stand. On Oct. 27th parathyroid treatment was discontinued, and the fits, which had been absent for five days, at once recurred with violence. By the end of the week the child was rapidly falling back into the state on admission. To ascertain the effect of thyroid gland, this was given for a week in small doses (1/8 gr. t.i.d.) so as to exclude any effect of possibly present parathyroid, but without benefit. On Nov. 10th parathyroid was resumed, and by the end of a week most marked improvement had taken place. This was maintained, and when seen on March 9th the child was running about, playing, and trying to talk. The condition described was illustrated by numerous photographs of both children taken before, during, and after treatment.—Dr. W. H. Brown made a "Plea for the Early Recognition of Syphilis."

Reviews and Notices of Books.

VITAL STATISTICS.

An Introduction to the Science of Demography. By GEORGE CHANDLER WHIPPLE, Professor of Sanitary Engineering in Harvard University; Member of the Public Health Council, Massachusetts State Department of Health. London: Chapman and Hall, Ltd. New York: John Wiley and Sons, Inc. 1919. Pp. 517. 18*s.* 6*d.*

THE appearance of an American handbook on vital statistics is a sign of the increasing importance attached to this subject in the United States. It is a commonplace in the history of public health in England that its progress has, in very large measure, been impelled and guided, as well as measured, by our national death returns, under the inspiring influence of William Farr and his successors. But in the United States the path of the vital statistician is strewn with difficulties. Thus, quoting from Mr. Whipple, not only are state "governments too easy-going to insist on the enforcement of such laws as exist," but laws are inadequate in most states, and the registration returns are made by a large number of clergy and laymen, "not properly instructed, not interested in the proceedings, and not always understanding the law." Worst of all, the people themselves "do not appreciate the personal importance of having the most important events in their lives made matters of public record." This defect is most marked in regard to birth registration. Thus in Cambridge, Mass., the seat of Harvard University, the birth records are so incomplete "that annually a house-to-house canvas is made to ascertain the births for the year." Mr. Whipple adds: "This is a disgraceful admission of incompetence on the part of the local registrar and of the negligence of all concerned." During last year the Children's Bureau of Washington, a department of the Labour Ministry, initiated an educational "drive" by leaflets, &c., urging everyone to register the birth of their children. Meanwhile, in a majority of states the registration of births is so imperfect as to render it impracticable to determine whether progress is being made in the saving of child life, to compare different areas with each other, or to determine the exact amount of loss of maternal life in childbearing in terms of the exposure to risk. In stating these facts it must always be borne in mind that a large proportion of the population of the states is alien, among whom the difficulties both of registration and sanitation are exceptionally great.

Morbidity statistics are incomplete to a very varying degree. It is interesting to note that in most states this duty is imposed on physicians, no fee being paid for the certificate. As regards death returns, in 1918 nearly 78 per cent. of the total population of the United States was in "registration areas," which for this purpose means states and cities in which satisfactory registration laws are being effectively enforced, and where there is reason to believe that more than 90 per cent. of all deaths are being registered; a standard which must still be regarded as unsatisfactory.

It is evident that in dealing with such relatively unsatisfactory material as the above facts imply Mr. Whipple's task is made more difficult than it would be under more favourable conditions. Fortunately, however, he deals rather with methods than with an analysis of statistical or epidemiological results, and on these lines the elegant volume which is before us contains much of general interest, and of special interest to all who have to deal practically with the analysis of vital statistics. The first chapter gives a short sketch of demography; in the second the elements of statistical arithmetic are stated. In this chapter we welcome the statement: "It is pitiful to see the energy and time wasted by some health officers in using unnecessary decimals in performing long division operations"; and we may add the further expression of regret that so many health officers, especially those dealing with scanty data, insist on carrying the calculations of rates to two or even three places of decimals, thus obtaining a completely fictitious appearance of extreme accuracy. In the third chapter statistical graphs are dealt with, and in the fourth enumeration and registration, on which some comments have already been made. The fifth chapter, dealing with estimations of population, has a useful appendix giving a list of all cities with a population of 25,000 or more in 1910. It is interesting to note that in 1850 three-fourths of the population of the United States was native-born, while this can only be said now of about one-half.

In Chapter V., dealing with general death-rates, the question is raised as to inclusion of the deaths of residents who die away from home. Mr. Whipple approves of the action of the American Bureau of the Census in taking the geographical point of view. Apparently he is not acquainted with the method of correction adopted in Great Britain, which gives a more useful and more nearly accurate result for the comparative purposes of vital statisticians, but perhaps such a method would be inapplicable for the present in the United States. Each state is self-contained in respect of its vital statistics, as in other matters; and this means vast differences in efficiency and completeness of registration. There is much of interest in this chapter; the following remark, even though it needs to be slightly safeguarded, gives food for thought:—

"Unless public health officials learn how to view general death-rates in a proper light—a good way being not to view them at all—they may be surprised and discouraged some day to find that the death-rate is rising."

In another chapter, dealing with specific death-rates, Mr. Whipple discusses the various methods of securing standardised death-rates; and in Chapter VIII. the International list of causes of death is printed, as well as a useful list of occupations.

In subsequent chapters tuberculosis statistics are discussed, the statistics of diphtheria, of typhoid fever, and of cancer. Under the heading of cancer the author quotes the original paper by King and Newsholme in the Proceedings of the Royal Society for 1893, which showed that the balance of evidence was in favour of the view that the apparent increase was merely statistical, a view which has since been strikingly confirmed. Evidently, however, he is not acquainted with the even more recent study of the subject by Dr. T. H. C. Stevenson, which throws additional light on the problem, and necessitates a reconsideration of earlier conclusions.

In dealing with infant mortality statistics the author gives a number of tables as to the relation between infant mortality and type of house, sleeping rooms, ventilation, attendance at birth, education of foreign mothers, age of mother, method of feeding, household duties, and earnings of fathers. He remarks that the vital statistician must train himself to analyse his statistics. In the tables, the subjects of which are enumerated above, there is preliminary analysis galore but no satisfactory teaching; the author has missed an opportunity in not emphasising the point in regard to each of these tables, that the variations in infant mortality may or may not be significant, and what we require to know is that in the compared groups other things are practically equal and the groups really comparable. Probability is discussed in Chapter XII., and correlation and life tables in the next two chapters. There is much useful matter in these chapters, but we doubt whether this information will be directly valuable to health officials. These chapters, and the chapters on the use of medical and demological statistics, strike us as the least satisfactory in the book; their worth would have been greatly increased had the author secured the active coöperation of a medical officer of health who is familiar with the statistical difficulties of his medical work and the way out of them. There are useful appendices to the work, dealing with references, a model law of morbidity reports, and of registration of births and deaths. Finally, there is a table of logarithms.

The book will be found helpful by health officials and by others interested in vital statistics. It is singularly free from real errors, and we trust that it will stimulate the extension and perfection of birth and death registration throughout the United States.

HERMAN'S DIFFICULT LABOUR.

Sixth edition, revised and enlarged. By CARLTON OLDFIELD, M.D. Lond., F.R.C.S. Eng., Honorary Obstetric Surgeon to the Leeds Infirmary, &c. London: Cassell and Co., Ltd. 1920. With 198 illustrations. Pp. 573. 16*s*.

IT is just ten years since the last edition of this book appeared, although it was reprinted in 1912. It has always been a popular book with both teachers and students, and we are very glad to see that the publishers have not allowed it to disappear. As the editor rightly says, it has long been a medical classic, and for nearly a generation a friend in need to many a general practitioner and many a resident obstetric officer. The book owes its reputation to the fact that it was written out of the large and ripe experience of its author, and its teaching has stood the test of time. For this reason the alterations that the new editor has had to make have been relatively few, and he has been able to preserve the salient features and distinctive qualities of the book. There are a number of new illustrations, and some of the sections have been added to and partly rewritten, more especially those dealing with Cæsarean section and rupture of the uterus. The section on Cæsarean section has been amplified and the latest results given, as well as the more modern methods of operating. In the treatment of incomplete ruptures of the uterus the Carrel-Dakin method is recommended for the irrigation of the tear and of the uterus to prevent infection, and no doubt this should help to lessen the mortality of these cases. In the chapter on post-partum hæmorrhage there is a good description of the modern method of direct blood transfusion. Apparently the editor's results with gum solution have not been encouraging, but this does not correspond with the experience of most surgeons.

The book retains all its own characteristics, while Mr. Oldfield has added to its value by bringing it up to date, so that it is now, as it always has been, the best possible guide to the student and practitioner in the treatment of cases of difficult labour.

MANUAL OF OBSTETRICS.

For Students and Practitioners. By O. ST. JOHN MOSES, M.D., C.M., D.Sc., F.R.C.S., F.R.S. Edin. London: J. and A. Churchill. 1920. With 136 illustrations. Pp. 528. 21*s*.

THE only excuse which legitimately could be put forward for adding another text-book to the many already existing excellent works on the subject of obstetrics would be that the book is as good as or better than any of its predecessors. We are afraid this can hardly be said for the work under review. It is obvious that the author is quite out of touch with the modern teaching of midwifery, and therefore his book cannot be recommended to any student as a safe guide. For example, we are told that the chorionic villi are covered with a basement membrane on whose surface is a close compact layer of fine walled cells. The amnion is described as developed by a folding up of the somatopleure, and it is said to cover the developing umbilical cord. Not a word is said of the embedding of the early ovum in the decidua basalis, and the function of the decidua is imperfectly described. The diagram showing the height of the pregnant uterus at the various months of pregnancy is quite inaccurate. A carneous mole is said to be the result of polypoid deciduitis and to be covered with small polypi, which are involutions of the decidual tissue; the author has apparently never heard of a subchorionic hæmatoma. We are told that ovarian gestation has never yet been demonstrated, when already in 1906 Whitridge Williams had described 36 very probable cases, and since that date a number of certain cases have been published. In the account of the treatment of placenta prævia not a word is said of the use of Champetier de Ribes's bag for this condition, and under accidental hæmorrhage the student is recommended accouchement forcé, while plugging the vagina and Cæsarean hysterectomy are not even mentioned. In the section on instruments we are told that the écraseurs which are figured are useful for performing such operations as amputation of the cervix, and the removal of polypi or of the ovaries. One wonders where and when the author can have learnt these things.

The book is not at all up to date and cannot be recommended to the readers for whom it has been written.

THE NUTRITION OF THE FŒTUS.

By J. MORRIS SLEMONS, New Haven, Yale University Press. London: Humphrey Milford. 1919. Pp. 50. 3*s*. 6*d*.

THE nutrition of the fœtus involves two factors—the peculiar activity of its own organs and the supply of food it receives. The second factor has been brought within the range of direct observations, and in this little brochure Dr. Slemons details the results attained. That the mother's weight increased during pregnancy has long been known, and at one time it was believed that fœtal growth occurred at the expense of the maternal tissues. This is, however, not so, and it has been shown that the food of the mother is sufficient not only for her own needs but also for those of the fœtus. Two theories have been held as to how substances pass through the placental partition which intervenes between the two circulations of the mother and the fœtus. The first, the vitalistic theory, assumes that the placenta digests the food of the fœtus, and the second, the mechanistic theory, supposes that the placenta plays merely a passive rôle and behaves as a semi-permeable membrane. One fact, at any rate, holds good, and that is that no insoluble substance can pass the placenta. Analysis of specimens of fœtal and maternal blood obtained simultaneously has enabled Dr. Slemons and his collaborators to make some notable additions to our knowledge of the action of the placenta. They have shown that there is a constant equality in the non-protein nitrogen content of the maternal and fœtal bloods, and that in the fœtal plasma there is always a slight excess of the amino acids, pointing to the placenta being capable of absorbing them and preventing their departure from the fœtus. These observations also show that the nitrogenous fœtal waste products and glucose all pass through the placenta by diffusion. There is, however, a high fat content in the blood of the pregnant woman, a much lower one in the blood of the fœtus, and between the two circulations no interchange of fat or related substances.

This is a very interesting study and a notable addition to our knowledge of the physiology of the placenta.

PAINLESS CHILDBIRTH AND TWILIGHT SLEEP.

Second edition. By CECIL WEBB-JOHNSON, M.B., Ch.B., Captain, R.A.M.C. (T.F.); late Civil Surgeon and Officer Commanding Station Hospital, Dum-Dum, &c. London: Butterworth and Co. Pp. 169.

Dr. Webb-Johnson has apparently had a considerable experience in administering twilight sleep in India, and this book is a resumé of most of what has been written on the subject and of his own conclusions. We may say at once that he is an enthusiastic advocate of this method of scopolamine-morphine narcosis. The subject is considered at length, and the many objections which have been urged against the method are discussed in detail. It is a pity that the author has not included a complete record of all the cases treated by him, omitting a great deal of the extraneous and unnecessary matter which he has introduced. The whole tone of the book is spoilt by some of the additions, and it suffers from the defect which most of the books on this subject suffer from—namely, that the reader is presented with the opinions of the author unsupported by any facts from which he can draw his own conclusions. It is only by comparing the carefully recorded results of large numbers of cases treated by this method that we shall be able to arrive at a just conclusion. Dr. Webb-Johnson is strongly in favour of the complete Freiburg technique, and yet we find that in practice he appears to use the method of fixed dosage not infrequently. Here, again, in the absence of

complete details we are uncertain which method has been most commonly employed. In using fixed doses the author, after an initial dose of morphine 1/6–¼ gr. and scopolamine 1/150 gr., or omnopon 2/3 gr. and scopolamine 1/150 gr., gives half-hourly injections of small doses of scopolamine, which he believes are more efficacious and much safer than larger doses at longer intervals. We are led to believe that the author has treated large numbers of cases, but we are not told the actual numbers nor the actual results in any form in which they can be compared with those published by other observers, and for this reason the scientific value of the book is small.

DR. CHAVASSE'S ADVICE TO A MOTHER.

Eighteenth authorised edition. By T. D. LISTER, M.D. London: J. and A. Churchill. Pp. 336. 2*s.* 6*d.*

WE cannot help regretting that this book has been reprinted. It has done useful work in its time, but it evidently has been too heavy a task to revise such a mass of detail when almost every word should have been rewritten. In these days a woman who employed a wet-nurse for her child, and forbade her "to visit her own baby," as recommended on page 33, would be execrated by every decent-minded citizen. If a wet-nurse is employed, she should nourish both her own and the foster-child, and not the latter at the expense of her own. This is by no means the only example of failure in revision, but we are most surprised in view of the recent prominence of the subject to see that two-hourly feeding—10 feeds in 24 hours—should still be upheld in the present edition.

It is easy to understand the anxiety to maintain something of the original form in a book which has been for many years useful in educating public opinion. The author has put a good quantity of new wine into this respectable old wine-skin, so we may, perhaps, hope that the skin will burst, and that the publishers will reward him with a new skin for the next season's vintage.

DIE MEHLFRÜCHTEKUR BEI DIABETES MELLITUS.

Von Professor Dr. W. FALTA, Vorstand der III. Medizinischen Abteilung und des chemischen Laboratoriums des Kaiserin Elisabethspitales in Wien. Berlin und Wien: Urban und Schwarzenberg. 1920. Pp. 388. 50 marks.

SINCE 1898, when Mossé advocated the treatment of diabetes by a diet consisting largely of potatoes, and more particularly since v. Noorden announced his "oat cure" in 1902, a variety of so-called carbohydrate cures for the disease have been described. Although some have had a limited vogue and satisfactory results from their use have been reported by a few observers in selected cases, no universally applicable treatment of this description has yet been found.

In the volume under review Dr. W. Falta of Vienna describes yet another variation of the same theme. Originally a disciple of v. Noorden he has abandoned the claim formerly made by the Vienna school that the success achieved with the oat cure depends upon some property peculiar to oatmeal, and ascribes it rather to the low protein content of the diet and the abundance of starch given. He now employs, therefore, a "mixed meal cure" in which wheatmeal, oatmeal, rice, barley, peas, beans, linseed, maize, millet, tapioca, and potato are combined, at first in the form of gruel and, later, as purées and soups. He contends that the control of acidosis in diabetes is, at least, as important as the limitation of the excretion of sugar, and, as the formation of the acetone bodies on which acidosis depends is related to the intake of protein, and can be prevented by an adequate supply of carbohydrate, it is necessary that the diet should be arranged with these objects in view at any cost. The particular kind of starch employed is not a matter of great importance; what is essential is that it should be given in large amounts and be varied so as to avoid the monotony attached to the original oatmeal cure. Although the allowance of protein is kept as low as possible a considerable amount of fat is permitted. As in the original oat cure the patient is prepared for his carbohydrate days by a series of vegetable and hunger days.

Despite the favourable cases quoted by Dr. Falta in a voluminous appendix, it is doubtful whether his "mixed meal cure" will prove a panacea for diabetes any more than the many other methods of treatment described for the disease. The fact that some cases respond to one form of treatment and some to another of an entirely different character suggests that diabetes is not a single pathological entity always amenable to the same therapeutic measures. Until means are devised for differentiating the various types accurately the most suitable form of treatment for any particular case can only be determined by a process of trial and error, checked by careful clinical and chemical observations, and in the course of this procedure the mixed meal cure should be as worthy of a place as others which are at present fashionable.

ACQUIRED SYPHILIS IN THE MALE.

An Atlas of the Primary and Cutaneous Lesions of Acquired Syphilis in the Male. By CHARLES F. WHITE, M.B., and W. H. BROWN, M.D. London: Bale's Medical Books. 1920. Pp. 32 and plates. 27*s.* 6*d.*

THIS work is the outcome of a photographic record of cases treated at a large venereal hospital during the war. The fact that the authors had at their command so much clinical material—as many as 19,000 cases of syphilis came under observation—renders the record a very complete one. The work is divided into six parts, the first three parts being devoted to Syphilitic Chancres and Soft Sores; the fourth part to Secondary Cutaneous Lesions; the fifth to Late or Tertiary Syphilides; and the sixth to Skin Diseases liable to be mistaken for Syphilis. The letterpress has been purposely kept within narrow limits. The descriptions are concise and clear, two qualities that do not always appertain to descriptions of cutaneous lesions in text-books of dermatology. Special attention is paid to syphilitic chancres and soft sores, since the early recognition of these lesions is a matter of vital importance. To render the illustrations still more instructive they have been arranged for use with a stereoscope, a fact which should certainly assist the reader in obtaining a clear mental picture of the lesions portrayed.

The whole aim of the work is to assist in the formation of a diagnosis. The Atlas is in no way a treatise on syphilis, and does not deal with such subjects as treatments or prognosis. It should prove of great value in assisting the student to obtain a clear impression of the types of lesions commonly seen in a venereal clinic. The Atlas will assist the effort that is being made to obtain earlier recognition of a disease that is fraught with such great consequences to the nation. The photographs from which the plates are prepared have been well selected. Altogether we congratulate the authors on the result of their labours.

THE PHILOSOPHY OF CONFLICT.

And other Essays in Wartime. By HAVELOCK ELLIS. London: Constable and Co., Ltd. 1919. Pp. 300. 6*s.* 6*d.*

THIS is a book to be taken on a holiday. It is a delightful and informing series of essays dealing with subjects literary, sociological, economic, medical, and biological—e.g., Martin Luther, Herbert Spencer, Baudelaire, Joseph Conrad, Cowley, the Origin of War, the Problems of Eugenics, the Unmarried Mother, the Political, Economic, and Psychological Position of Woman, the Drink Problem, Psycho-analysis in Relation to Sex. What more varied collection could the thoughtful physician or surgeon desire as a companion of his leisure, especially when the author writes from a point of view consistently progressive, yet always sane and moderate? The following extracts will but serve to whet the reader's appetite for a closer acquaintance.

War "probably began late in the history of mankind; it developed slowly out of animal hunting ..... above all, it owed its expansion to two great forces, the attractive force of booty and commercial gain in front, and the propulsive force of a confined population with a high birth-rate behind" (53). "A nation with a high birth-rate is not in a state of efficiency. That high birth-rate

is the mark of immaturity, defective civilisation, and general inefficiency" (115). The two causes of war "are already decaying. The excessive birth-rate is falling, and necessarily falls with every rise in culture. Excessive industrialism has likewise passed its climax; there is no new world left to fight for; and with the regularisation of industrial and commercial activities ..... the economic cause of war falls away, and the energy thus released is free for sublimation into other and possibly more exalted forms of human activity" (55). Conflict of the kind that involves violence is not to be "regarded as the eternal and supreme type of conflicts in the world" (62). In regard to Freud, "We cannot understand him, unless we regard him as, above all, an artist" (206). "Truth or fiction, to the artist it is all one, even when the artist is a psycho-analyst, for he is only concerned with truth to his art" (205). "His (Freud's) theories have been proved to be often defective ..... yet he enlarged the human horizon" (222). "He has shown the existence of a vast psychic field of which before we had but scanty intimations. The human soul will never again be to human eyes what it was before Freud explored it" (223).

Mr. Nevil Beauchamp, it may be remembered, "liked a bone in his mouth," when choosing his reading, to correct vagrancies and promote healthy activities. Mr. Havelock Ellis in this book gives the reader plenty of bones to worry.

WHEELER'S HANDBOOK OF MEDICINE.

Sixth edition. By WILLIAM R. JACK, B.Sc., M.D. Glasg., Physician to the Glasgow Royal Infirmary. Edinburgh: E. and S. Livingstone. 1920. Pp. 561. 12*s*.

THE principal change which has been made in this popular handbook since the last edition published in 1916 consists in an appendix of eight pages on the medical diseases of the war. This classification is no doubt convenient for the moment; it has helped in the successful attempt to keep the pagination of this edition identical with that of the last, but it is to be hoped that at a subsequent date trench fever and infective jaundice will find their way into the section on specific infectious diseases, while war neuroses will take their place as a somewhat specialised variety of the psycho-neuroses of everyday life. While they are exalted to their present importance, and so much is written on treatment by suggestion, it is, perhaps, a pity that nothing is said of the method of "abreaction," which has proved so successful in the hands of Dr. William Brown and others. A very few alterations are made in the body of the book, occasional additions being introduced while a new picture showing the position of the images in diplopia now takes the place of a diagram on p. 500, which illustrated the action of ocular muscles. Some of the minor criticisms offered in our review of the fifth edition have been met, and the value of a widely read manual has, we think, been enhanced.

LA TENSION ARTÉRIELLE EN CLINIQUE.

Second edition. Par Dr. L. GALLAVARDIN. Paris: Masson et Cie. 1920. Pp. 720. 30 francs.

IN his preface the author claims that this is more like a new book than a new edition, embodying, as it does, all the work of the past decade. The size of the volume may seem excessive at first sight, but it contains very little redundant matter. After all, as Dr. Gallavardin observes, it is scarcely an exaggeration to say that sphygmomanometry is to chronic disease what temperature records are to acute disease. The first part of the book is devoted to a study of technique. The author comes down on the side of the tactile method, with a Riva-Rocci apparatus, for measurement of the systolic pressure. As for the diastolic figure, he favours either the vibratory or the auscultatory method. He considers that the auscultatory method gives a high systolic reading; presumably it is this that deters him from recommending its use for estimation of systolic as well as diastolic pressure, the plan which is largely adopted nowadays in this country.

After an admirable account of physiological variations in the blood pressure the book passes on to deal with the pathological variations. The section that will arouse most interest, doubtless, is that in which persistent hypertension is discussed. Its relation to renal disease is considered judicially and at length, but the author does not think it possible to state a theory which covers all the facts. The last section discusses blood pressure in various diseases and under the influence of various therapeutic methods.

This is a valuable book of reference, and we wish it could be translated into English. A word of praise must be given to the freedom with which the text has been illustrated by explanatory diagrams.

EFFICIENCY IDEALS.

By THISELTON MARK, D.Lit., B.Sc. London: T. Werner Laurie, Ltd. Pp. 127. 2*s*. 6*d*.

THIS little volume, bearing the subtitle "A Short Study of the Principles of 'Scientific Management,'" may be said to reach the average of the large number of books now appearing on the subject. Its author is obviously a keen enthusiast, but he lacks originality and judgment. Insufficient discrimination is made between "authorities," and the attitude of Labour towards scientific management is not adequately appreciated.

THE TRIAL OF HAWLEY HARVEY CRIPPEN.

Edited, with Notes and an Introduction, by FILSON YOUNG, Editor of "The Trial of the Seddons," &c. London and Edinburgh: William Hodge and Co., Ltd. 1920. Pp. 246. 10*s*. 6*d*.

TEN years ago—apparently on Feb. 1st, 1910—Crippen murdered his second wife, known to her friends as Cora Crippen or by a stage name as Belle Elmore. He was convicted of murder and sentenced to death on Oct. 22nd, after five days' trial at the Old Bailey, and in due course was hanged. In the present volume, the latest of the well-produced and interesting series of "Notable English Trials," are included a full report of Crippen's trial for murder and of the judgment of the court upon his appeal; a report of the trial of Le Neve, indicted as accessory after the fact and acquitted; and the contents of sundry documents more or less connected with the case. The editor, Mr. Filson Young, in a picturesquely written and interesting, if somewhat gossipy, introduction, refers to the murder as a "*crime passionel*" (sic). No doubt the murder of a wife in order to live with another woman may be so described, and this element, the flight across the Atlantic with a girl dressed in boy's clothes, and the sensational demonstration of the usefulness of the new wireless telegraphy in bringing about the capture of a criminal, excited widespread interest. With all this, however, the principal, if not the only, feature of the case rendering it worthy of inclusion in a series of important criminal trials lies in its medical interest. Scientific evidence hanged Crippen when once the friends of the dead woman had called the attention of the police to her mysteriously sudden and complete disappearance and to the clumsy fictions with which he was seeking to explain it. Certainly Crippen in the disposal of his victim's body had been wonderfully ingenious up to a certain point. He had dismembered it and got rid of head, limbs, bones, and sexual organs so that they were never found; but he had buried under the floor of the cellar at his house in Hilldrop-crescent the viscera of the chest and abdomen, in which hyoscine was stated to be traceable, and among fragments of epidermis one was indelibly marked by the scar of an abdominal operation. The gruesome remains submitted to the jury had been in the ground for nearly six months. The identification of the scar as a scar, and not a mark caused by the folding of the piece of skin, was in the able hands of Mr. A. J. Pepper, Dr. B. H. Spilsbury, and Dr. T. Marshall. Dr. W. H. Willcox explained how he had examined portions of the stomach, intestines, liver, and kidneys, and satisfied himself that an alkaloid present was hyoscine. Dr. A. P. Luff corroborated Dr. Willcox, while medical evidence called by the defence, question-

ing the identification of the scar and of the hyoscine, failed to impress the minds of the jury with any reasonable doubt.

Crippen had described himself in the witness-box as a doctor of medicine of the Cleveland Homœopathic Hospital, U.S.A., and his principal business in England seems to have been to sell homœopathic medicines and "remedies," purveyed by a firm known as Munyons. It was in the course of this kind of trade that he claimed, uncorroborated in any particular, to have dispensed in a few months and got rid of the greater part of the five grains of hyoscine, the proved purchase of which he did not deny. Some he claimed to have left behind at his office, and in this, again, he was uncorroborated, as he was in his assertion that homœopathic practitioners recommend the administration of the drug in certain diseases. In a letter to Le Neve, written when under sentence of death, and quoted by Mr. Young from the *Daily Mail*, the doomed man included long arguments as to the identification of the piece of skin with a scar on it. It is characteristic of the psychology of the criminal, confronted with proof of his guilt, to believe that failure of the prosecution to establish one point in its case would involve the destruction of that case in its entirety, and further, would, to quote Crippen's words in his letter, "put him right before the world." The scar was of undoubted importance in proving the identity of the scanty remains found, but it is hardly conceivable that even without the piece of skin in question the case for the Crown would have been withdrawn from the jury. The presence of hyoscine did not identify the remains as those of Cora Crippen, but with them were dyed hairs darker at the roots where the natural colour showed, such as her hair had been observed to be, and portions of a woman's underclothing corresponding with what she was proved to have worn. The case for the Crown was convincing enough, and if anything was wanted to strengthen it, the explanations of his conduct, or the lack of explanation, afforded by the accused in the witness-box, supplied all that was needed.

Reports and Analytical Records
FROM
THE LANCET LABORATORY.

VITMAR (VITAMINE FOOD).

(CALLARD AND CO., 74, REGENT-STREET, LONDON, W.1.)

THERE is no reason why palatable materials rich in vitamines should not be prepared now we know the sources in which the accessory factors occur in abundance and the methods of retaining their activity. Vitmar is stated to be manufactured by a difficult and delicate process from wheat, bone marrow, eggs, fruit, and sugar. Chemical analysis so far is not able to disclose the actual presence of vitamines, but fat to the extent of 11·64 per cent. was extracted, which showed the presence of phosphorus, a characteristic of both egg fat and bone marrow. The mineral matter, though low, proved to be rich in phosphate. The fats are well emulsified, and there is no reluctance shown by children to taking the preparation. On the contrary, they like it, and that is an important point in regard to a product claiming to contain all three accessory factors—fat-soluble A (growth promoting), water-soluble B (anti-neuritic), and water-soluble C (anti-scorbutic). The presence of fruit juice was confirmed by a positive response to the well-known tests for the organic acids normally contained in it. The moisture amounted to 21·35 per cent. We have received a report by a well-known bio-chemist, in which is set out the vitamine value of Vitmar in experiments made on rats. It would seem from this report that this preparation represents an earnest attempt to consolidate accessory food factors.

ANTI-VERMIN PASTE.

(THE SANITAS COMPANY, LTD., LOCKSLEY-STREET, LIMEHOUSE, LONDON, E.)

The principle on which this anti-vermin paste is designed is, we think, sound, judging from the evidence of practical experience gained in regard to it, and generally from a consideration of its composition. It contains a well-known and proved insecticide, which, however, is present in a solvent. Mere contact with the warmth of the body suffices to volatilise the insecticide, which then does effective work. It is pointed out that "stoving" a man's clothes and washing and shaving him is not a real preventive measure, since when he returns to an infected place he is soon open to further attacks. The plan with this ointment is to smear as much of it as will go on a threepenny-piece along the top band or collar of the shirt, the seam under the arm, the crutch seam of the trousers and the inner seam at both knees, and, if the vermin are on the head, round the lining of the cap or hat. The volatilisation by the warmth of the body of a really effective insecticide from a paste appears to be a business proposition. We have assured ourselves of the composition of the paste, and have extracted and identified the active volatile constituent present. The originator of the paste has had considerable experience in sanitary administration through the war, and there is clearly a field still left open for conquering disease-carrying vermin. The Sanitas Company seem to be putting on the market here a much required preparation.

AMBROSIA MILK AND COCOA POWDER.

(AMBROSIA, LTD., BRIGHTON CHAMBERS, DENMAN-STREET, LONDON BRIDGE, S.E.1.)

The analysis of this preparation gave the following results:—

Moisture ...	5·10 per cent.	Reducing sugar ...	11·80 per cent.
Mineral matter	3·25 ,,	Protein ...	13·23 ,,
Fat	16·56 ,,		

The mixed dried milk and cocoa makes a pleasant nutritive cup, and the proportion of fat and protein is notable. More than half of the powder is soluble in cold water, which is due largely to the presence of sugar as a sweetening agent.

CHLOROSAN.

(SWISS SERUM AND VACCINE INSTITUTE, BERNE.)

The suggestion is novel that the very interesting substance chlorophyll is likely to help in cases of anæmia and chlorosis. Chlorophyll, of course, is related to hæmoglobin, the former being the medium by which carbon dioxide under the influence of light is absorbed by plants with the ultimate liberation of oxygen, and the latter the medium by which oxygen is absorbed by animals with ultimate liberation of carbon dioxide. In modern terms they both serve as catalysts. Whether chlorophyll releases oxygen in the human system may be open to doubt, and its fate in gastric metabolism would be interesting to determine. We are told that the preparation submitted to us is based on chlorophyll, as the result of experiments and researches by Professor E. Bürgi and his collaborators at the Pharmacological Institute of the University of Berne. Our examination confirmed the presence in the capsules of chlorophyll. The usual spectrum absorption was shown by a solution of the contents, and the mineral matter contained magnesium (particularly) and some iron. It is interesting to note that the hæmoglobin, as we may call it, of plant life contains magnesium as its chief metallic element, while the hæmoglobin of animal life has as its metallic foundation iron.

SEDOBROL ROCHE.

(THE HOFFMANN-LA ROCHE CHEMICAL WORKS, LTD., BERNE, AND 7 AND 8, IDOL-LANE, LONDON, E.C. 3.)

We have referred to this preparation before, but a specimen of a new packing has reached us which gives greater convenience when attempting to control the administration of bromides to the patient. Sedobrol is a combination of bromide of sodium and vegetable proteins. It produces, in fact, a bromide soup made from tablets dissolved in hot water, in amounts controlled by the physician. The saline taste of the bromide provides a "seasoning," which otherwise common salt would be called upon to do, while, of course, the bromide has well-known sedative effects. This administration may have its advantages, but should be conducted strictly at the discretion of the medical adviser.

THE LANCET.

LONDON: SATURDAY, APRIL 10, 1920.

The Medical Research Council.

THE draft of a Charter for creating the members of the Medical Research Committee a body corporate, under the style and title of "The Medical Research Council," has received the King's approval on the advice of the Privy Council, and a warrant has been prepared for His Majesty's signature in conformity with the draft. Under the warrant, from the first day of this month the Medical Research Committee, as at present constituted, ceases to exist, while the duties heretofore discharged by that Committee will be discharged, with enlarged scope, altered position, and increased discretion, by the new body. The representations made to His Majesty by the Lord President, the Minister of Health, the Secretary for Scotland, and the Chief Secretary for Ireland, acting as a Committee of the Privy Council, having been accepted, it is now directed that the members of the late Medical Research Committee—namely, Lord GOSCHEN, Mr. WILLIAM GRAHAM, M.P., the Hon. EDWARD F. L. WOOD, M.P., Mr. C. J. BOND, Professor WILLIAM BULLOCH, Dr. THOMAS RENTON ELLIOTT, Dr. HENRY HEAD, Professor GOWLAND HOPKINS, Sir WILLIAM LEISHMAN, and Professor D. NOEL PATON—under the name of the Medical Research Council, shall succeed to the old and the new responsibilities.

The Medical Research Council will have a perpetual succession and a common seal with full power, by and in such name:—to sue and be sued; to enter into contracts or agreements under the direction of the Committee of the Privy Council; to hold and dispose of money and personal property including Parliamentary grants; to accept trusts; and generally to further all the objects for which the Council has been established, and the Committee of the Privy Council appointed. The only limit to the activities of the new body which is mentioned, save that all its acts should be conducive or incidental to the purposes of its establishment, is that purchase or lease of land within the United Kingdom shall not exceed in the whole an annual value of £50,000, a customary enactment when there is question of lands held by a corporation in inalienable tenure. A provision for maintaining the Medical Research Council in touch with the growth of science and with the development of national necessities enjoins that three members of the Council, to be selected as the Committee of the Privy Council may determine, shall retire at intervals of two years; but any member so retiring is eligible for reappointment, thus securing a continuity of special work. Appointments to vacancies, whether casual or otherwise, will be made by the Committee of the Privy Council, after consultation with the President (for the time being) of the Royal Society, and with the members of the Medical Research Council; and, as is usual, those appointed to fill casual vacancies will only hold office for the remainder of the appointed period of those whom they replace. Two members of the Medical Research Council must at all times be members of the House of Lords and the House of Commons respectively, which ensures the legislature being informed intimately, should questions arise requiring discussion in the public interest. The Council will appoint its own chairman, treasurer, and secretary, with the approval of the Committee of the Privy Council, as well as any other officers and servants for administrative purposes. Lastly, there are provisions by which, upon the vote of an absolute majority of the whole of the Council, alterations, amendments, and additions may be made to the Charter.

The Charter will appear to all scientific men to mark a valuable and significant advance in the position of science in this country. Under it the Medical Research Council may be described as a permanent standing subcommittee of the Privy Council, a body whose acting members are principally formed from the Cabinet and whose President is always a prominent member of the Cabinet. The Medical Research Council will thus have direct access to Ministers, and will not have to submit proposals through any intermediary. It will, moreover, work under the immediate dispensation of a Committee of the Privy Council, consisting of the three Ministers of Health of the respective divisions of the United Kingdom, whereby all its plans for the scientific development of medicine and for the direction of research into the channels most fruitful for the health of the people will come at the earliest stage before those who have supreme charge of the health departments of the kingdom. Endless opportunities for misunderstanding and for delay will thus be eliminated. The circumstances in which the help and intervention of the President of the Royal Society may be sought are exactly suitable. From the time of its foundation, or at any rate of its first charter of incorporation, the Royal Society has been constantly relied upon by Government for scientific advice. Looking at its medical work, it has assisted especially to clear up difficulties in connexion with colour-blindness, malaria, Mediterranean fever, and many forms of tropical disease, while it has the duty already of administering annual grants on behalf of the Government for the promotion of scientific research. The direct association of the Royal Society with the work of the Medical Research Council is appropriate, and cannot fail to be very valuable.

Delayed Salvarsan Poisoning.

THE series of cases of delayed salvarsan poisoning reported by Dr. G. S. STRATHY, the late Captain C. H. V. SMITH, and Dr. B. HANNAH has at first sight a somewhat formidable appearance (see p. 802). Fifty-eight cases from one hospital, of which seven out of the eight fatal cases occurred within about five months, would represent a serious state of affairs if it were typical of the experience of military venereal hospitals, or of the hospital in question for more than a limited period. It is clear, however, that this series provides another example of the local and temporal concentration, the occurrence in groups or "outbreaks," characteristic of the incidence of the cases of this form of delayed poisoning which have been reported during the war. As in the case of trinitrotoluene poisoning, which presents many points of rather suggestive similarity, this occurrence of cases in groups, resembling small epidemic outbreaks, has naturally raised the question of an intercurrent infection. The possibility that specially toxic batches of the arsenical preparations were responsible has also naturally been suggested; just as the suspicion arose that certain kinds of trinitrotoluene were peculiarly dangerous. It will be seen that the authors of this paper, with apparently good reason, discount all such possibilities, and attribute the unfortunate experience to an unwise persistence in intensive treatment without due regard to or search for the signs of susceptibility in certain patients.

Doubtless all these possibilities will be fully discussed in the further report which has been promised by the special Salvarsan Committee, appointed by the Medical Research Committee in 1918. Meanwhile, it is important to bear in mind that the outbreaks of such poisoning, taken altogether, represent a minute proportion of the total number of cases receiving this treatment in military hospitals during the war. Considering the nature of the problem with which the military authorities were faced—the large number of cases to be treated, the relative novelty of the treatment when war broke out, and the urgency for such intensive administration as would return a man to duty in the minimum time—the number of cases of serious trouble seems to have been remarkably small. At the same time it is important that full use should be made of the experience afforded by such cases as have occurred, with a view to the complete elimination of danger from a treatment which has established itself as, beyond comparison, the most effective at present available for syphilis. It is therefore of special value that the authors of the paper are able to indicate the precautions which they found effective in detecting and forestalling danger, and the treatment by which, after the first eight cases had proved fatal, they were able to restore the succeeding 50 affected patients to health. Their method of detecting the first signs of liver atrophy by means of the X rays appears to be novel. It will be seen that they regard the condition with which they deal as essentially a delayed arsenical poisoning, and quote an interesting case in which a somewhat similar condition was produced by Fowler's solution in a non-syphilitic patient. The interest of the latter case, however, must be largely attributed to its rarity. It is very probable that others have laid too much stress on the organic part of the salvarsan molecule in considering the evidence of its remote toxic action; but to speak of the effect simply as "delayed arsenical poisoning" is surely to swing rather too far in the other direction. The condition has, indeed, some features in common with that which may be produced by inorganic arsenic; but, as indicated above, it has also points of similarity to those which have been found to follow persistent absorption of certain organic compounds containing no arsenic.

The Value of Debate.

WE have received recently complaints from those who have been invited to address meetings of medical societies, and societies of allied bearing, that the audiences who assembled have been so scanty that the main object for the delivery of the address was frustrated from the beginning, in that no sort of representative debate could possibly ensue. These complaints have reached us in regard to meetings of different sections of the Royal Society of Medicine, as well as in regard to other societies of less scientific standing, but as some of these latter bodies are of wider scope it might have been expected that their assemblages would appeal to a greater number of persons. This seems not to be the case, the gatherings at the Royal Institute of Public Health, for example, being as often as not very small. Such a situation is every whit as vexatious for the officials in charge of the meetings as for the lecturers, and the position should be considered without any suggestion that the fault can be attributed more to one side than to the other, but solely with a view to the remedy of what is now a waste of time and of opportunity.

The main object which a lecturer should have in addressing these meetings is the stimulation of a debate, for if publicity only is desired this will be obtainable in an indefinitely larger measure by issue in a journal. Experience has shown over and over again exactly what it might have been expected to show—namely, that a keen debate of a surgical, medical, or pathological subject, which is topical or which presents generally felt obscurities in diagnosis or treatment, is followed by some concrete piece of progress. When a subject needs debate for the reasons just indicated, and when those present, speaking from personal experience, shape the controversy towards the real points of difficulty, practical therapeutics take

a step forward. The enormous difference between the written and the spoken word then appears, and men who in attempting to settle their differences by correspondence would remain to the end at variance, find themselves, probably to their surprise, in accord over many essentials, and ready to allow that what is left over for quarrel is largely not worth quarrelling about. In a debate a man can re-state his position, and in some new form the details which previously had puzzled his adversaries may become the arguments for the making of friends. And this charming situation is reached in three minutes, and reached without reservation, while three months spent in correspondence would have produced no real agreement. There is no necessity to labour this point. Everybody knows that a well-guided discussion is the way either to arrive at the truth or to construct the methods by which the truth may be arrived at; and accordingly everybody will regret any widespread feeling that it is not worth while to debate a medical subject at a learned society because the audience, neither in quality nor quantity, is likely to provide a useful discussion. Yet this is exactly what may happen if the average of unsuccessful gatherings grows larger.

The Royal Society of Medicine, said Sir ARBUTHNOT LANE in a recent speech, is the best medical society in the world; and we do not think it is British swagger to claim that no other learned body is so representative of the medical science of its country, or provides in so orderly a manner that every section of that science should receive proper recognition and proper opportunities, both for threshing out difficulties in its specialty and for calling in other sections to assist in its discussions. Because the Royal Society of Medicine is so strong and so well managed, we have the less hesitation in suggesting that the authorities of the Society should look closely into this subject of ill-attended debates, and should arrange that they should occur as infrequently as possible. Perhaps there should be a more rigorous scrutiny of subjects which are proposed for papers; and perhaps there should be a more efficient manner of securing an audience. We feel sure that if it is admitted that there is at present something wrong, we shall not have long to wait for steps to right it.

Military Training as a Panacea.

THE report upon the physical examination of men of military age by National Service medical boards, which we have been studying from week to week, gives the material for a rough physical census of Great Britain. There has never been a real survey of man-power in the United States of America. Even the recording of births has not yet become a practice universal throughout the federation, and the recent war did not come so closely home there as to necessitate the enlistment of every moderately healthy male person. But much knowledge came to hand during the systematic examination of the draft in 1917–18, and Dr. MERRITTE IRELAND, now Surgeon-General of the United States Army, uses this knowledge to form an estimate of the physical and hygienic benefits of military training, which appeared in the *Journal of the American Medical Association* for Feb. 21st, the last issue to reach this country. Dr. IRELAND tells us that among a total of nearly five million men examined for the Army, Navy, and Marines, 47 per cent. were found to have physical defects and 21 per cent. disabilities of sufficient gravity to lead to rejection. These have not yet been numerically classified as a whole, but a large sample of the early draft showed the percentage incidence of defects to be somewhat as follows: Flat-foot, 11; venereal diseases, 8·6; hernia, pronounced or latent, 4; defective vision and defective growth, each 3½; organic heart disease, 3; tuberculosis, 2·5. Dr. IRELAND would have us know that the high venereal rate was due to infection prior to enlistment, so that the whole of the disabilities tabled may be regarded as the natural result of present-day American civil life.

Regarding the 53 per cent. who were accepted as fully meeting the physical standard laid down for enlistment, even with them all was not well. On the arrival of the recruit at camp the inspectors reported over and over again on the stream of awkward, narrow-chested men with flabby muscles, and often with a stoop; these formed a marked contrast to the bronzed, erect, broad-chested soldiers of fine muscular development and alert, self-confident air, who presented themselves for examination before demobilisation, and who were the same persons. Military training added 15 to 20 pounds of weight to the average recruit, the gain being regarded by Dr. IRELAND as due almost entirely to muscular tissue. He speaks of the low record for venereal disease of the American army in France, and of the effect of the discipline of military life, as a whole, in producing better material for citizenship. The article ends with an eloquent plea for universal military training in order to give an opportunity of a physical survey each year of the youth of the land, with a view to the detection and remedy of physical disability. No other class of men, to quote Dr. IRELAND'S words, have the vision, as medical men have, to see the good that would result from such universal training.

But military training is not the only panacea which has been suggested, even in America, to attain this very desirable end. For one thing it often comes too late; at 19 years of age much of the harm arising from faulty habits of life is already done and cannot be remedied. Fresh air, exercise, cleanliness, rest, regular meals, and careful supervision are the remedial factors in the training of the recruit. They are also the essential conditions for the upbringing of the child, and, to quote Sir GEORGE NEWMAN'S recent Memorandum to the Minister of Health upon the practice

of preventive medicine, they are as certain in their beneficial physical effect as they are conducive to the creation of a mental atmosphere favourable to the opening mind. Applied early in life, these things become part of a child's instinctive equipment. Understood thus they form a hygienic education which turns out hygienic graduates who do not require to cram for a recruiting examination, or at most need a repetition course. In this country the boy-scout movement has already done wonders in the physical and mental education of the juvenile population. The syllabus of physical training issued in 1919 by the Board of Education may do as much when it is fully applied. The ordinary conditions of life and upbringing should fit the adolescent for the struggle of life as well as, if need be, for the field of battle.

Annotations.

"Ne quid nimis."

THE MEETING OF THE BRITISH MEDICAL ASSOCIATION AT CAMBRIDGE.

THE annual general meeting of the British Medical Association will be opened at Cambridge by the President, Sir Clifford Allbutt, Regius Professor of Physic in the University, on Tuesday evening, June 29th. The Representative Meeting will begin on the previous Friday morning.

The Section of Neurology and Psychiatry has completed its preliminary arrangements. On the morning of Wednesday, June 30th, a discussion on the Early Signs of Nervous Disease and their Interpretation will be opened by the President of the Section, Dr. Henry Head. A discussion on Dementia Præcox and its Relation to other Conditions will be opened by Dr. Bernard Hart on Thursday morning, and on the following morning Dr. T. A. Ross will introduce a discussion on Psychotherapy, to which numerous speakers have expressed their desire to contribute. A series of demonstrations in the Medical Buildings will be given on one afternoon, and on another microscopical and other demonstrations will be given in the Physiological and Psychological Laboratories.

The proceedings of the Section of Pathology and Bacteriology are also arranged. The Section will devote the first morning (Wednesday, June 30th) to morbid anatomy, when a discussion on Atrophy of the Liver will be introduced by Professor Stuart McDonald, of Newcastle. The morning of July 1st will be given to experimental pathology, when Dr. J. A. Murray, Director of the Imperial Cancer Research Fund, will open a discussion on the Present Position of Cancer Research. The third morning (July 2nd) will be given to bacteriology, and Dr. J. A. Arkwright, of the Lister Institute of Preventive Medicine, will open a discussion on the Bacteriology of Cerebro-spinal Fever. A collection of specimens to illustrate the three subjects will be shown. The afternoon of each of the three days will be devoted to a meeting of the Pathological Society of Great Britain and Ireland; details of the papers to be read and the demonstrations to be given will be published later.

RESIGNATION OF THE MINISTER OF HEALTH FOR IRELAND.

OUR Dublin Correspondent writes: "The resignation by Mr. I. Macpherson of the Chief Secretaryship for Ireland has terminated the tenure of the first Minister of Health for Ireland. Beyond the fact that he was Minister of Health, and thereby established a precedent, it can hardly be claimed that the late Chief Secretary made any lasting mark upon health matters in Ireland. His housing schemes appear to have been stillborn. It is true that he sent encouraging messages to the Irish Public Health Council, suggesting that that body should devote its attention to devising a radical scheme of reform; but, like a more famous pro-Consul, he has not stayed for an answer. When the answer is ready it will, no doubt, depend on the will of his successor whether the scheme will bear fruit or not."

MENINGOCOCCI IN THE PETECHIÆ OF CEREBRO-SPINAL FEVER.

IN the *Journal of the Royal Army Medical Corps* Lieutenant-Colonel Robert Muir has reported two cases in which the interesting observation of the presence of meningococci in the petechiæ of cerebro-spinal fever was made. He refers to the fact that war experience showed that meningococcus septicæmia is much more frequent than was supposed; numerous cases without meningitis have been recorded and meningococci have been demonstrated in blood films made during life. The finding of organisms in the petechiæ is, therefore, not surprising. The meningococci may occur in large masses, leading to blocking of the minute vessels and thus to hæmorrhage. But it is not suggested that all petechiæ are so produced; they may also be the result of toxic action, as is generally supposed.

An American private, aged 26 years, was admitted to hospital from a troopship on Sept. 29th, 1918, as convalescent from influenza. Progress was satisfactory till Oct. 4th, when at 8 A.M. he had an attack of great restlessness. The temperature was 103·8° F., and there was an abundant petechial eruption on the trunk and limbs. He died at 10.45 from rapid heart failure. The necropsy showed no trace of meningitis, and meningococci could not be found, by culture or microscopic examination, in the brain or cord. In both lungs were a few patches of recent pneumonic consolidation, partly hæmorrhagic. The spleen was considerably swollen and soft. Films made from the petechiæ showed Gram-negative diplococci in considerable number, mostly lying free, but some within leucocytes. Cultures from the blood post mortem gave an impure growth in which Gram-negative diplococci were present. They were also found in films made from the pneumonic patches.

In the second case another American private, aged 23 years, was admitted convalescent after influenza from a troopship on Sept. 29th, 1918. He suffered from cough with purulent sputum and occasional epistaxis. On Oct. 5th, at 2 A.M., he had an attack of vomiting. At 7.30 a purpuric eruption was noted on the face and trunk. He rapidly sank and died at 9.55. The findings at the necropsy were closely similar to those of the previous case. Films made from a petechia showed numerous Gram-negative diplococci both inside and outside leucocytes. Sections of the petechia showed the organisms in large numbers within the minute blood-vessels. The meningococcus was cultivated both from a petechia and from blood taken from a vein in the arm.

Similar observations were made by Netter and Salamier in 1916. They described two cases of cerebro-spinal fever in children, one without

meningitis, in which Gram-negative diplococci, presumably meningococci, were found in films made from the purpuric spots. Several writers have noted inflammatory reaction around the vessels involved. In connexion with the presence of meningococci in the petechiæ of cerebro-spinal fever, it is of interest to recall the fact that typhoid bacilli have been found in the rose spots of typhoid fever.

BREAD ABROAD.

IN view of the intention of our Government to reduce the bread subsidy in the coming financial year by 45 millions, which involves a rise in the price of bread to the consumer of 2½*d.* per loaf on April 12th, the following paragraphs taken from the *Economic Review* (March 31st) dealing with the bread position in Austria, France, and Germany are of interest.

AUSTRIA.—*Increased Price of Bread.*

The Lower Austrian Government has increased the price of bread by Hr. 28 per loaf as from March 7th. Bread will now cost Kr. 5.60 per loaf, as against Kr. 2.40 at the beginning of the year. (*Neue Freie Pr.*, March 4th.)

FRANCE.—*New Bread Prices.*

At a debate in the French Chamber on the price and supply of bread, it was stated that for the last three years the State had been losing Fr. 4 milliards a year on bread. The actual price of bread should be Fr. 1.50; the Government was taking very moderate action. The number of persons to whom cheaper bread would be granted had been greatly increased by a new decree; one-quarter of the consumers would pay a reduced price. The wheat deficit was so great that the import would have to amount to half the consumption. A fleet of 2 million tons would be required to transport it. The decree increasing the price of bread as from March 15th was passed by 475 votes against 68. (*Débats*, March 14th.)

As from March 15th the retail price of plain and fancy bread in Paris is as follows:—

80 g., Cent. 10; 180 g., Cent. 20; 270 g., Cent. 30; 370 g., Cent. 40; 450 g., Cent. 50; 500 g., Cent. 55; 550 g., Cent. 60; 650 g., Cent. 70; 750 g., Cent. 80; 850 g., Cent. 90; 950 g., Fr. 1; 1000 g., Fr. 1.05.

Fancy loaves weighing at least 700 g. and not more than 80 cm. long, Fr. 1.05 per loaf; rolls weighing from 70 to 80 g., and not more than 25 cm. long, Cent. 20. Delivery, Cent. 5 per loaf.

Flour sold to customers in the ratio of 50 g. per person per week, Fr.1.50 per kg. (*Débats*, March 13th.)

GERMANY.—*Increase in the Price of Bread.*

Owing to the large increase in the prices of coal and yeast the Greater Berlin Food Committee has raised the price of the 1900-g. loaf from March 15th to Mk.2.65, and of the 1600-g. invalid's loaf to Mk.2.55. (*Deut. Allg. Ztg.*, March 9th.)

Dr. Hans Guradze, of Berlin, gives in *Jahrbücher für N. u. St.* (February) tabulated statistics of the prices charged for wheaten and rye bread in Berlin during 1919.

It will be seen from these figures that the most serious advance in the price of bread is in Austria, while the situation in France is not very agreeable when it is officially stated that the wheat deficit is so great that the import would have to amount to half the consumption and "a fleet of 2 million tons would be required to transport it." This country may be grateful to its food administrators who have maintained a bread-supply throughout the war and who do not now propose, in spite of reducing an enormous subsidy, an alarming advance in prices in the future. According to the journal quoted above, frauds are being perpetrated on the public in Madrid by means of short weight of bread. The kilogramme loaf, we are told, rarely weighs 950 g. and not often more than 860 g. As the daily consumption realises 200,000 kg., the shortage amounts to 20,000 kg., representing a loss to the public of about 13,200 pesetas per diem value in bread. This statement is remarkable, since short weight is much more easily checked than are sins of adulteration.

LOCAL INJECTIONS FOR GOITRE.

Dr. J. E. Sheehan, of New York, published in 1917[1] a report of 17 cases of goitre treated by injections into the gland of carbolic acid, tincture of iodine, and glycerine in equal parts. In the *Journal of the American Medical Association* for Jan. 10th, 1920, Dr. J. E. Sheehan and Dr. W. H. Newcomb, both of whom are instructors in the nose and throat department of the New York Post-Graduate Hospital and Medical School under Professor Beaman Douglas, report a further series of 80 cases injected in a similar way. They have been greatly interested in this form of treating diseased thyroid glands, as a means of relieving or curing the pathological condition, during the past five years. Through the courtesy of Professor Douglas they have been able to observe all cases of goitre coming into the nose and throat department. Eighty cases of all forms of goitre have been treated during the past two years with the combination described above, five drops being injected into the most prominent part of the gland, the process being repeated every five days or so. They state that the object of the treatment is to produce an inflammation which eventually causes a fibrosis in the gland and an obliteration of that part of the gland injected. Such injections are said to be especially favourable in the ordinary parenchymatous goitres of young women. Of 55 patients of this type so treated 76·4 per cent. were cured. In 14 toxic cases relief was afforded in 80 per cent. The treatment was useless in the cystic or colloid form. In fact, in these cases the authors state that if treatment be persisted in it may do harm, causing a sudden enlargement of the gland which may seriously interfere with respiration. In suitable cases—that is, in all but the cystic or colloid form of goitre—it quiets the heart's action, improves the appetite, has a favourable effect on metabolism, stays emaciation, and reduces the mental irritability. It is the custom of Dr. Sheehan and Dr. Newcomb to inject with this mixture all goitre cases which are to be operated on, as the relief of the toxic symptoms aids appreciably in the success of the operation. The procedure is stated to be a safe one if the technique is not at fault.

HOME HELPS.

AFTER skilled help at the confinement—and not very far after, moreover—comes next in importance help in the home to relieve the mother of the anxieties of household management during the first few weeks of the new life. It is perhaps impossible for anyone except the mother herself to realise the intolerable burden which cleaning, cooking, sending the children well-groomed to school, and the hundred tasks of the house, mean to a woman already fully occupied with the manifold minor—but none the less straining—anxieties and accidents inevitable in the nursing of a young infant. There can be no doubt that, second to a midwife or doctor in her time of

[1] New York Medical Record, Oct. 6th, 1917.

trial, the greatest gift to the working mother would be home help during the time of recovery. Such help is, of course, now a recognised public health measure, thanks to the initiative and foresight shown by the Local Government Board in its well-known Memorandum of August, 1918, in which the various aspects of maternity and child welfare were epitomised. It would be interesting to know how many local authorities have so far made use of their opportunities. It is not, perhaps, fair to judge by the annual reports of medical officers of health for 1918, which are all that are so far open to inspection. These came too closely on the heels of the Memorandum in question for much action to be possible. At any rate, it is apparent that action did not in fact follow, for, in a perusal of 26 consecutive annual reports, taken at random, of counties and of large towns and cities, not a single instance was found in which the subject was discussed; and in only one was the matter mentioned at all, and then rather as a pious aspiration than as a practical problem. There is this to be said in extenuation of the omission; it is not easy to propound a working scheme for the purpose. Is the home help, in the first place, to be a whole-time or a part-time servant of the authority? From every point of view, except perhaps that of cost, the whole-time help is preferable. How is she to be obtained? The type needed is to be found among the cronies of the mothers who attend welfare centres, and probably the best course is to use the welfare centre as an intelligence department for the purpose. Through it the chances of finding the suitable type are reasonably great. The training in simple cooking, household cleaning, washing, and marketing—in which the help-elect is probably already no mean performer—can best be done through the welfare centre. It is clearly best that she should pivot on the welfare centre at which many of her clients will attend rather than be attached to some more detached section of the public health department. The financial question may be a difficulty; it is unlikely that the whole of her salary can be met by the contributions of patients, even with the institution of a form of insurance in the case of all expectant mothers at the centre. But the financial is not the greatest difficulty. The kernel of the problem is the mother herself, who in many cases will, after a day or two of intense relief, resent the invasion of her territory and the exploration of her pet cubby-holes by a strange woman. A successful scheme must take into account the psychology of home-life.

SYPHILIS OF THE BLADDER.

ACCORDING to Dr. Loyd Thomson,[1] of Hot Springs, Arkansas, the literature on syphilis of the bladder is comparatively meagre. Of 84 cases on record only 58 are accepted by him as authentic. He thinks it probable, however, that this number does not represent the true incidence of the condition, and that it would be more frequently found if more attention were paid to it. He suggests that if the vesical mucosa of every case of syphilis in the eruptive stage were examined with the cystoscope involvement of this viscus would be found in a large percentage of cases. In the early stage of syphilis there is more or less congestion of the mucous membrane of the bladder resembling the diffuse eruption sometimes seen in the mouth and pharynx, or there may be a distinct papular eruption with or without erosion or ulceration. In the later stages the most frequent type of lesion is the ulcerating gumma, which may be either single or multiple. The usual site of the lesions in the early or late stage is round one of the ureteral orifices, but other portions of the bladder wall may be attacked. In the early stage the most frequent symptom is frequent and painful micturition, hæmaturia being the predominant manifestation of the late stage, and often the only one. There is, however, nothing characteristic in the symptoms or cystoscopic picture of syphilis of the bladder, and the diagnosis must rest upon the history, the presence or absence of the manifestations of syphilis, including the Wassermann reaction, and upon the result of specific therapy. The prognosis, on the whole, is good. Only 4 of the 58 cases died, death being due to the malignancy of the syphilitic infection. In all the other cases complete recovery followed the use of specific remedies.

[1] The American Journal of Syphilis, January, 1920.

CRUSADE AGAINST ANKYLOSTOMIASIS IN BENGAL.

THE prevalence of hookworm disease amongst the native population of Bengal and its very serious results in deterioration of health are well-known facts. Within the past year consideration of the whole subject has resulted in the initiation by His Excellency Lord Ronaldshay, Governor of Bengal, of an organised campaign for control and prevention of the disease. The work has been undertaken by Dr. C. A. Bentley, Sanitary Commissioner, with the assistance of Dr. Borland McVail, Dr. R. G. Griffin, and Dr. S. P. Gupta. One of these officers has charge of the organisation in respect of mills, factories, and railways; another in respect of tea-gardens and coal-mines; and the third in respect of municipalities and police in Burdwan. The nature of the crusade can be illustrated by reference to the first of the three sections—that of mills and factories. The prime object was to secure the interest and support of both employers and employees. In March, 1919, there was held a meeting of superintendents and managers of the mills, together with medical men and senior employees. The gathering was presided over by the chairman of the Jute Mills Association, and was addressed by Dr. Bentley, who pointed out the prevalence of the disease and its effects, not merely direct in the way of ill-health, but also financial in the loss resulting from deterioration of physique amongst mill-workers. It was explained that the line of attack would be by the institution of laboratories at which the necessary microscopical examination of infected material could be made, and treatment adopted for those found to be affected. This proposal was favourably received, premises for a laboratory were provided at one of the mills and work has been begun.

In initiating the campaign account had to be taken of the suspicions and susceptibilities of the workers, who, it was found, were apt to suppose that discovery of their being infected with the disease would lead to dismissal from employment. At first the scheme was confined to microscopic examination to ascertain the degree of prevalence of ankylostomiasis, and even this had to be carried on with discretion. In the early examinations, only about 50 per cent. were found infected, but this was probably due, in part, to the inexperience of some of the microscopists, as indicated by the fact that in one mill

the percentage of positive cases rose from less than 50 in April to over 70 in July and August. Treatment as a sequence to diagnosis was gradually instituted, and, as weeks passed, reluctance to accept it diminished. For some months only males were dealt with, but later on a few females were treated, and the number of these also is increasing. As the scheme extended from one mill to another, its details became modified, and instead of endeavouring to ascertain the percentage of prevalence, attention was concentrated on examination and treatment of cases which the mill doctors knew to be suffering from debility. In that class the cause of debility was in some mills found to be hookworm in more than 90 per cent. of the cases. In addition to the training of the laboratory staff, mill doctors were also brought into the scheme and have aided in the work. On one of the railways two laboratories have been opened under the charge of Dr. T. H. Bishop, working in connexion with the central department, and various difficulties are being overcome. At one mill the workers belonging to the weaver caste were the subject of investigation, and though these regularly wear boots and are therefore less exposed to risks, 35 per cent. were found infected.

Amongst mill-workers the prospects of success or failure of a crusade must obviously depend in great measure on the goodwill, or indifference, or opposition of those responsible for the management of the mill, but the immense importance of the treatment should surely suffice to enlist cordial support. Now that the schemes have been fairly initiated, the work should be taken up by the mills themselves in respect of the provision of apparatus and staff, as, even where labour is plentiful, it is important that the standard of health should be high. Until the natives can be educated into cleanly habits, so that the ground shall not be constantly the place of deposit of infective material, the action taken by those engaged in the crusade will have to be constantly maintained at a high level; under spasmodic activity the benefit is likely only to be temporary, as the conditions favouring ankylostomiasis will continue to provide new cases of the disease or renewed infection of those who have already been cured. The ultimate object must therefore be the establishment of sanitary habits, and if that is accomplished there may then, but only then, be entertained a hope of relaxation of the efforts being made. At present, of course, extension of the operations of the scheme is the urgent requirement. In the meantime, the scope for direct individual benefit by means of treatment of individuals is almost unlimited. India is working towards an increasing degree of self-government, and if Bengal is by-and-by to take its place as a centre of industrial activity—if, for example, shipbuilding is to be established on a great scale on the Hoogly—it is of the first importance that the population from whom the class of workers would have to be drawn should be protected against this definitely preventable infection.

RECENT FRENCH WORK ON SYPHILIS.

IN the *Paris Médical* for March 6th Dr. Milian gives an excellent review of recent work on the subject of syphilis. Levaditi and Marie have supported the contention that general paralysis is due to a special variety of treponema by means of further animal experiments. A longer incubation period is required for the development of lesions in the rabbit after inoculation with the "neurotropic" virus than that required after inoculation with the "dermotropic" variety. The appearance of the lesions is, moreover, somewhat different in the two cases. Inoculation with the dermotropic virus produces typical infiltrated nodules, whereas the neurotropic treponema causes widespread and superficial lesions, surrounded by a zone of infiltrated skin. The two varieties of virus would appear also to differ in their virulence, the injection of the dermotropic variety into monkeys being followed by the appearance of a typical chancre, whereas the neurotropic treponema (after passage through a rabbit) is non-pathogenic to monkeys. The authors explain these findings by means of the hypothesis that the treponema of general paralysis is a different variety to that found in syphilitic lesions of the skin, mucous membranes, and viscera. Dr. Nicolan, of Bucarest, has made extensive examinations of the cerebro-spinal fluid during the primary stage of syphilis, and has found changes occurring as early as the fifteenth day. As a rule, however, these changes were not noted before the third week. In connexion with these changes he calls attention to the importance of noting any inequality of the pupils that may be present. Out of 18 cases of primary syphilis *with* spinal lymphocytosis 11 showed inequality of the pupils, whereas amongst 33 primary syphilitics *without* cerebro-spinal fluid changes only 5 instances of unequal pupils occurred. Lacapère, Fournier, and Guenot have all contributed to the subject of the prevention of syphilis by means of prophylactic injections of arsenobenzol. Azémar has reopened the question of the administration of arsenobenzol by the rectal route. He has shown that it is rapidly absorbed by the detection of a considerable quantity of arsenic in the urine two hours after the enema has been given. The quantity of arsenic found in the urine increases up to the third day, and then disappears by the sixth. As compared with that observed after an intravenous injection the elimination is later, more abundant, and less prolonged. In the case of an intravenous injection traces of arsenic may still be found in the urine 15 days after the injection. The therapeutic effects of intra-rectal medication are therefore less rapid, less profound, less constant, and less durable than those obtained by the intravenous route. Rectal injections of arsenobenzol may possibly be of use during the latent period of syphilis, or as a preventive measure. They are not advisable when active clinical manifestations of syphilis are present. Sicard recommends the administration of "914" in daily doses of 0·1 to 0·2 g. until a total of 8 or 9 g. has been administered. He considers that by this method the ill-effects occasionally following the administration of this drug are minimised, and recommends its employment in cases of hemiplegia. Dr. Milian discusses the question of jaundice occurring during a course of arsenical treatment, and comes to the conclusion that in the majority of cases the jaundice is the result of the disease rather than of the remedy. He points out that similar cases are observed during treatment with mercury alone. Arsenical dermatitis has likewise been the object of careful study by the same author. Two different categories of dermatitis have been distinguished. The first occurs about nine days after the first injection, and appears as an erythema, scarlatiniform, morbilliform, or polymorphic in type. The second occurs towards the end of the course, when the patient has received a considerable

quantity of arsenic, and is in the nature of a dermatitis exfoliativa. The latter is of more serious import and necessitates the suspension of any further treatment with arsenic.

IN HONOUR OF DR. WILLIAM WELCH.

Dr. W. H. Welch, professor of pathology in the Johns Hopkins University, Baltimore, reaches his seventieth birthday this month, and the medical profession of America consider that the occasion ought not to pass without some expression of admiration for one who has long stood in the position of a leader. To many of his friends it has seemed that a worthy expression of affection would be the preservation in suitable form of the chief contributions from Dr. Welch's pen. These are scattered through a great variety of publications, and are more or less inaccessible. It has accordingly been decided to bring together and to publish in three volumes his papers and addresses, which strikingly reveal the great part he has played in the development of medical science and medical education. To place the project upon a sound financial footing it has been decided to invite his friends and former pupils to unite in making possible the publication of his work. A set of three volumes will be issued by the Johns Hopkins Press, under the editorial supervision of a well-chosen committee, to subscribers at $16.50, which is less than the estimated cost. Each copy will be numbered and assigned in the order of subscription. The edition will be restricted to the number subscribed. The following distinguished members of the medical profession of the United States form the committee of publication: John J. Abel, Lewellys F. Barker, Frank Billings, Walter C. Burket, William T. Councilman, Harvey Cushing, John M. T. Finney, Simon Flexner, William S. Halsted, William H. Howell, John Howland, Henry M. Hurd, Henry Barton Jacobs, William W. Keen, Howard A. Kelly, William G. MacCallum, William J. Mayo, Ralph B. Seem, Winford H. Smith, William S. Thayer, J. Whitridge Williams, Hugh H. Young.

THE summer session at the Brompton Hospital for Consumption, which begins on April 13th, includes a daily series of afternoon demonstrations, the aim of which is to present the student to the problem of tuberculosis systematically, and to give him an opportunity of seeing the results of sanatorium and other treatment and of discussing with the staff the causes of failure in this or that case. The teaching will not select rare or curious cases, but will concentrate on the ordinary case in all stages of the disease. Details will appear in our Medical Diary.

AT the election to the Council of the Royal College of Surgeons of England, to take place on July 1st next, there are three vacancies upon the body. Two of those retiring from the Council by rotation—namely, Sir Anthony Bowlby and Sir D'Arcy Power—will offer themselves for re-election; while the other Fellows who are candidates for seats are: Mr. H. S. Pendlebury, surgeon to St. George's Hospital; Mr. W. Thelwall Thomas, surgeon to the Royal Infirmary, Liverpool; Mr. J. H. Fisher, ophthalmic surgeon to St. Thomas's Hospital; Mr. F. J. Steward, surgeon to Guy's Hospital; and Mr. Victor Bonney, assistant obstetric surgeon to the Middlesex Hospital.

EXPERIMENTAL MEDICINE AND THE VENEREAL DISEASES.[1]

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IN this discussion, related to the so-called venereal diseases—syphilis and gonococcus infections—an attempt will be made to keep constantly in view their public health aspects. Mention of economic, social, or moral measures will be limited to those which have some important bearing on the prevention of these diseases, and likewise references to education or methods of treatment will stress the benefit to the public rather than to the individual. It is necessary at the outset to have such an understanding, because the details of combating these diseases are necessarily concerned largely with that No-Man's Land between the views of the old-time physician who says there is nothing to do about venereal diseases except treat patients who have intelligence enough to apply, and the old-time moralist who says that these diseases are essentially a check upon sexual immorality and that any measure should be opposed which in the least degree may be interpreted as lessening the maintenance of moral standards. The limitation of this paper in this way does not imply, however, that sex-education, moral and religious training do not have on their own account social values far more important to the welfare of the nation than the complete elimination of venereal diseases could possibly have. The paper is still further limited largely to the experimental medicine phase of developing new methods of combating these diseases.

The Dissemination of Syphilis and Gonorrhœa.

A review of our knowledge upon which may be based a study of the prevention of venereal diseases shows that syphilis and gonorrhœa in their various medical and surgical manifestations are actually or potentially communicable diseases due to identified organisms; the methods of transmission are known, and practical laboratory and clinical technique has been worked out for diagnosing each of them; they are widely prevalent throughout the world among individuals of every race, sex, age, and condition of people; they find their chief opportunity for dissemination in the intimate personal contact of infected individuals with other individuals who are susceptible; they are largely but not exclusively transmitted through the promiscuous sex relations defined as prostitution; recent methods of therapy make practicable the shortening of the period of infectivity and improve the chances of ultimate recovery of the patient submitting to early and thorough treatment; once contracted, they may run their course to practical recovery, or a resting stage, with or without medical assistance, but under present conditions an unknown and large percentage of those infected never completely regain their health or cease to be carriers, and therefore are a continuous menace to society. Syphilis in its early stages is especially a public danger, while in its late manifestations the damage is largely confined to the individual himself. Gonorrhœa, on the contrary, while a public danger at all times, is particularly damaging to the individual in its early acute development, and later becomes an insidious danger to those intimately associated with him, especially within his home and family.

In a word, we know the cause of these diseases; we know that human "carriers" afford their chief mode of dissemination; we know that in prevalence and injury to the people they are not outranked by any others of the communicable disease group; and we know that theoretically we should proceed to apply these facts exactly as we apply the similar facts con-

[1] A paper read before the American Association for the Advancement of Science, St. Louis, Mo., on Jan. 2nd, 1920.

cerning other preventable diseases. Reduced to simplest terms this means the adoption and enforcement of: (1) measures for the discovery, treatment, and control of individuals already infected; (2) measures for the elimination of conditions of environment favouring the dissemination of the infection; (3) measures for the protection of individuals not yet infected.

Support of Public Opinion Required.

In practice the application of such a programme cannot proceed until the details of effective measures have been worked out and demonstrated, and the support of public opinion for an active campaign has been secured. The public is interested in the conservation of health as an asset in the world's work, and looks upon the eradication of any disease merely as one of many efforts which collectively may aid Society in guaranteeing "life, liberty, and the pursuit of happiness" to its members. An individual having a programme for the prevention or control of a disease must be prepared to undergo most searching interrogation as to the soundness of the programme, and must compete for recognition with others who have different plans for social progress, not only in the matter of disease prevention but in matters which may be of far greater importance to civilisation. He may present the most complete and statesman-like programme and still accomplish nothing to protect his great-grandchildren from the diseases against which he contends unless he popularises his knowledge, pioneers the way for community action and perpetuation of the initial effort. When the public does wake up to the possibilities of prevention it desires to do everything at once and get the job over with; from battling to get their programme recognised, those promoting a special campaign find themselves battling to have unsettled questions laid on the table until a careful decision as to policy and method can be made. All public health progress has followed this course.

The pendulum has swung back and forth between general ignorance and widespread interest, foolish indifference and unwarranted fears, impatience over slow progress in applying old measures, and confusion over continued controversies relative to new measures.

Inconsistencies with Regard to Venereal Disease as a Health Problem.

In the case of syphilis and gonococcus infections the public health problem has been theoretically more hopeful and practically more difficult than for any of the others. The basis for control of syphilis and gonococcus infections must be the same in principle as that for the control of other communicable diseases. This must be recognised, else we will fail. The medical profession as well as health officers and military authorities are quick to endorse this point of view, but slow actually to put it in practice. To illustrate: in small-pox we use every means to diagnose and treat the patient for his own sake, and promptly report the case to the health officer in an effort to protect the community through such measures as he may deem it necessary to take; in syphilis, when the same individual comes to us, we talk much of the Hippocratic oath, of personal liberty of the patient, of the tragedy of a broken home if the patient's wife should learn of his disease—the plain fact is that public opinion has not been forming for generations in support of a genuine public health programme against syphilis as it has against small-pox, and we have not had the courage fully to apply our knowledge until that opinion is formed. In diphtheria we not only report our cases, but we follow them into the home and the school or business, and examine their associates for the detection of other cases or carriers—if we were sincere in our belief that the venereal diseases must be attacked as a public health problem rather than as an adjunct to a moral one, we would work out practicable measures to compass the same results which we achieve in diphtheria. In malaria we have long advocated the elimination of swamps and the protection of the uninfected portion of the population from the bites of malaria-carrying mosquitoes, but in venereal diseases we not only withhold from the health officer information of known foci of infection, but encourage him to state that he has no interest in the elimination of red-light districts and other recognised centres for spreading these diseases. Here again the fact is that we know better but have not urged our officials to assume leadership in solving such a complicated and disagreeable problem. In tuberculosis, we take infinite pains and spend millions of dollars to advise, treat, and give after-care to persons who are found to be infected; yet in syphilis and gonorrhœa cases even our best clinics have made comparatively little headway in following up their patients and keeping them continuously under treatment, and our physicians as a rule either will not treat such cases at all, or feel no responsibility for keeping them under treatment and instructing them concerning the protection of others from infection. Such inconsistencies between the theory and practice of regarding the venereal diseases as a health problem are due to failure in the past to develop public opinion in support of a rational campaign; but much has now been done in this direction, and the demonstration of practical measures during the past two years in every part of the United States has prepared the way for rapid progress. Untreated cases are the principal source of infection and these cases may be classified into those who never seek treatment, and the "missed" cases among those who have presented themselves for medical diagnosis and treatment; the uncured cases are next in importance; and our failure to follow up contacts with known cases constitutes an additional important factor, as does likewise our failure to secure the diagnosis and treatment of suspected cases and carriers. For 20 years individual workers and volunteer organisations have endeavoured to devise ways and means of reconciling theory and practice in combating these diseases. Finally, the American Social Hygiene Association, the Oregon Social Hygiene Society, the Young Women's Christian Association, and other agencies joined in an appeal to Congress to establish a federal board empowered to develop research, educational, and administrative facilities for concerted attacks upon this problem throughout the nation. The United States Inter-departmental Social Hygiene Board was created, and simultaneously by the provisions of the same Army Bill a division of the United States Public Health Service was established to encourage and direct the campaign for the gradual eradication of the venereal diseases. Through these federal departments coöperating with the army, navy, Bureau of Education, Children's Bureau, and other Governmental agencies, the United States Government has inaugurated within the last year and a half the most nearly complete programme ever undertaken for the control, prevention, and eradication of gonorrhœa, syphilis, and chancroid. This programme involves a search for additional accurate information concerning the causes, carriers, prevention, treatment, and control of these diseases; it includes measures for the appropriate distribution of this information; it provides for the development of sound educational methods of sex education; it supports medical measures for treatment, prevention, and control in every State in the union; and it supplies plans and resources for the employment of social measures for protection against, and for the care of persons with, these diseases. In short, the Government has provided financial resources and the administrative machinery for promoting:—

(1) Scientific research for better medical methods of treatment and prevention.

(2) Educational, sociological, and psychological research and demonstration of better educational methods in the prevention of venereal disease.

(3) The application of medical measures for the prevention, treatment, and control of these diseases.

(4) The utilisation of social measures for protection against and care of carriers of venereal disease.

Since the initiation of this composite programme the Government has expended something over $3,500,000 and secured thereby the expenditure of an even larger sum by State and local governments and volunteer agencies.

Government Support for Research Work in the United States.

The United States Inter-departmental Social Hygiene Board has appropriated over $120,000 to 20 American colleges or universities for the purpose of supporting 33 separate researches to be carried out in the scientific laboratories of these institutions. There are now over 100 men and women at work upon these efforts to perfect better medical treatment and prevention measures for gonorrhœa, syphilis, and chancroid. Some of the scientific applications now being made for the control of these diseases show a striking similarity in their details to the applications of scientific knowledge that have been made for the control of malaria and yellow fever. In the control of these diseases we have accomplished dramatic and spectacular results by the use of screens and of sanitary procedures for draining swamps and oiling water, thus closing off the feeding-places and destroying the breeding-places of the mosquitoes that carry these diseases. To-day, under the provisions of the United States Inter-departmental Social Hygiene Board, we are working over plans for devising analogous social and legal "screens" that will keep the human carriers of syphilis and gonorrhœa away from their victims and eliminate the conditions which breed them. Referring again to the past by way of introducing the present, an illustration may be drawn from the remarkable scientific research on the synthetic production of the so-called "606" for the treatment of syphilis, one of the most gratifying and scientifically satisfying achievements of modern pharmacology. Very recently the United States Inter-departmental Social Hygiene Board made appropriations to American scientific laboratories for the synthetic production of new compounds for the treatment of gonorrhœa and for some much-needed improvements on the arsphenamine treatment of syphilis. The Brady Urological Institute of the Johns Hopkins Medical School has already produced a new mercurial compound as a result of an investigation that combined a brilliant scientific calculation with a practical and satisfying therapeutic demonstration. This product, mercurochrome "220," carries the qualities of deep tissue penetration, effective bactericidal properties, and a non-toxic effect upon tissue cells, and would seem to represent an effective and practically useful application of scientific knowledge to the treatment of gonorrhœa. Time alone, of course, can tell just how useful this drug may be.

Experiments of a similar character, supported in part by the United States Inter-departmental Social Hygiene Board, are being carried on for the production of other synthetic compounds at the Johns Hopkins Medical School, the Medical School of the University of Wisconsin, and the University of Nebraska. The Harvard University Medical School investigations are being made on the properties contributary to the toxicity of arsphenamine, neoarsphenamine, and analogous products.

Students of bacteriology and parasitology have in the past patiently studied the different strains of some of our better-known pathogenic bacteria and protozoa, thus giving a rational basis for a scientific investigation of their relationship to the human host. Scientific investigations are now being made at the instance of the Board in several American medical laboratories for the purpose of charting the gonococcus group. Serological studies of this group are being carried out in the Cornell University Medical School, and at Yale University there is being made an intensive study of methods for the isolation and identification of the gonococcus with a view to determination of the homogeneity of strains and their ætiological relationships.

The case-histories in which arsphenamine has been used indicate that this arsenical compound has toxic properties, which under certain circumstances are of serious danger to the patient. Because of this fact newer arsenical compounds have been developed in the hope that the product would exhibit less toxic properties. The nature of the toxicity of "salvarsan" and analogous arsenical compounds is a matter of extreme importance. Investigations for the identification of properties that contribute to the toxicity of these products are being carried out in the Harvard University Medical School. In connexion with these investigations, although in another laboratory—the Massachusetts State Psychiatric Institute—there is now being developed an investigation for the detection of changes effected in the central nervous system by various methods of neurosyphilitic therapeutics, complete central nervous systems of individuals treated intravenously, subcutaneously, and intraspinously having been secured.

Investigations Concerning the Families of Syphilitic Patients.

The family of the syphilitic presents problems that are in a great many respects very like those encountered in the family of the tuberculous case. The field for investigation is, to say the least, as great and as promising as was the field in tuberculosis. A sociological, psychological, educational, and medical investigation is being carried on now at the Massachusetts State Psychiatric Institute, Boston, covering the families of the syphilitic patients who have come to that institution in recent years, and with whom the officials of that institution have a very satisfactory mutually useful working agreement. These investigations will very likely secure important information concerning the acquirement of syphilis by the members of a family, and should develop more effective methods of group instructional hygiene for the avoidance of such infections. Furthermore, these researches should lead to a much clearer and more appropriate social programme for the protective, preventive, and reconstructive hygiene of these diseases.

Specialisation and Scientific "Team-Work."

The progress of science has been accompanied by a very definite specialisation of scientific investigators. While this specialisation has led to scientific advances that could have been achieved in no other way, it has been accompanied by an intellectual separation of scientific investigators that has made it increasingly difficult to utilise several highly specialised lines of investigation for the purpose of accomplishing a particular composite result. The synthetic chemist, the physiologist, the pathologist, and the pharmacologist are specialised scientific students whose joint activities would often be of very much greater practical value in medicine or in preventive hygiene if their scientific investigations could be made a part of a prearranged correlated series of researches. With this purpose in mind a combination research programme has been established whereby synthetic chemists of Northwestern University and the University of Illinois have undertaken to develop new compounds carrying arsenic which are to be tested out therapeutically in the Laboratory of Pharmacology and Therapeutics of the University of Wisconsin. This combination brings together three powerful laboratories in three great universities, and should result in a piece of very effective scientific "team-work." It is impressive to note that these scientific experts, who were so deeply concerned yesterday with the discovery of powerful chemical offences and defences against our human enemies, are to-day applying their brilliant resources for this discovery of chemical defences against our pathogenic enemy, the treponema. It is to be hoped that the discoverer of "Lewisite" and his present associates will find a chemical agent that will defend us with equal success against syphilis.

There is not time here to present the details of all the investigations which have been authorised by the United States Inter-departmental Social Hygiene Board or are being carried out independently, but for purposes of the association's proceedings there has been included an epitome of them at the end of this paper.

The purpose of this discussion is primarily to stimulate the interest of the members of the American Association for the Advancement of Science in two directions: (1) the development of public opinion in support of applying the knowledge which we already have, and (2) the acquiring of new knowledge applicable to the reduction in prevalence of syphilis and gonococcus infections, not merely knowledge of laboratory or

chemical technique, but sociological and particularly psychological and psychiatric knowledge.

Social and Psychological Aspects.

In combating syphilis not only must the social aspects of the problem be dealt with but the moral and religious as well. It has been pointed out that yellow fever would not now be essentially a matter of the past instead of one of the most dreaded of communicable diseases of the present had the epidemiologist not supplemented by field observations the evidence of pure science and developed practical methods of dealing with the reduction of exposures to the bite of the insect carrier of infection. Likewise it may be repeated that the epidemiologist may not hope to succeed against syphilis unless he recognises the human carriers of infection—the woman who practises prostitution and the men who seek sexual relations with her. It may not be considered strictly scientific to compare these so-called human carriers with the mosquito hosts of such diseases as yellow fever and malaria, but the general analogy holds. It may fairly be maintained that were prostitution to cease for a generation syphilis would be brought under complete control, and what is true of syphilis is in large measure true of the gonococcus infections. It is the duty of the scientist to examine carefully the possibilities of eliminating these human carriers of the venereal diseases. Sir William Osler once said to some of us by way of illustrating the necessity for an ever-present freshness of view-point in studying a medical problem: "You must bear in mind that there are three ways of eradicating malaria, all of which are theoretically equally effective: (1) you might kill all the malaria parasites; (2) you might kill all the mosquito carriers; (3) you might kill all the people." This observation applies to the eradication of syphilis, but it happens, as in the case of malaria eradication, that we do not wish to kill all the people, and we have not yet devised ways of killing all the parasites or of eliminating all the carriers. Much may be expected, however, from a study of both the second and the third methods. Already enough is known to ensure an enormous reduction in the prevalence of venereal diseases if we but apply our knowledge, but we need more social, economic, and psychological facts before a complete programme can be formulated. The mistakes of the past must also be studied. For example, it was natural that the public health administrator should propose to identify all the suspected carriers and examine them. This has been done with signal success in diphtheria; people by the hundreds or by whole communities have been subjected to examinations of their nose, throat, and ears, which are no more difficult from the point of laboratory and clinical technique than the examination of an equivalent number of person for syphilis. But the latter's selection of the mucous membranes of the genito-urinary system as the principal site for its initial lesions completely alters the practicability of applying the methods used in dealing with infections entering the body through the membranes of the mouth and throat. Conventions of clothing, questions of morality and modesty, besides the characteristics of the disease, all render it necessary to adopt other measures. The effort has been made to examine those who were known to be engaged in prostitution, but the men have always successfully objected to being examined, and only those women who could not escape the registration or other police machinery set up could be brought under the regulations. Thus there has never been more than a small percentage of the entire number even of the women under examination, and superficial examinations of a few women without any examination of their male companions has not proved effective. Under the exceptional circumstances of isolated military troops subject to frequent examination, simultaneously with examination of women in segregated houses visited only by the soldiers, such examinations for male and female carriers have claimed measurable results, but the essentials of complete control of both sexes have not been practicable in civilised countries in times of peace, or even during war for large bodies of troops.

Only recently has society become willing to consider the application of law, social protective measures, recreational and educational facilities to the prevention of exposure of its members to the venereal diseases. The analogy between screening the uninfected portions of a population against the mosquito carrier of malaria and screening them against the human carrier of venereal diseases through setting up a protective screen of social measures for combating prostitution is just becoming apparent to large numbers of citizens. There was a time in the history of preventive medicine when the public were taught to hang pieces of asafœtida about their necks or to put saucers of carbolic acid under the sick bed. No doubt these measures did some good in the same way that our quarantine signs placed before the quarters of scarlet-fever cases do some good now in inducing the well to keep at a distance from the known sick, but such measures have been largely replaced by more effective and more intelligent methods. Similarly, the scarlet-letter and the painted-lady labels have in their time served as indications of the desire of the public to have the well kept away from the morally and physically sick of vice districts. But, likewise, these crude and cruel methods are giving way to more intelligent and far more effective measures which take cognisance of a well-rounded programme for moral, medical, and social rehabilitation of those who are spreaders of venereal disease and immoral practices. Just as joint investigations on new medical measures are being promoted, so joint social and moral welfare investigations are being encouraged.

Conclusion.

The United States Inter-departmental Social Hygiene Board, coöperating with the Division of Venereal Diseases of the United States Public Health Service and State Boards of Health as official bodies, and with the American Social Hygiene Association and its affiliated branches as voluntary agencies, is endeavouring to promote a statesman-like effective campaign to relieve the citizens of the United States from the ravages of these great unconquered disease enemies. You who hold influential positions in university and civic organisations are in a position to bring about, for concerted attack on the venereal diseases, an allied army of scientists, social workers, professional men, business men, and citizens analogous to the coalition of our armies under Marshal Foch. Until that was accomplished we could not win the world-war; until this suggested coalition of scientific, social, political, and religious resources of the nation takes place, we may not hope for the brilliant results which are possible in conquering the venereal diseases. Men of science and medicine particularly are challenged by humanity to give their aid to this great disease battle, which must go on for generations, as the fight against small-pox has gone on, if we are to do our duty by the succeeding generations, for whom we are conserving our forests and water-power and our other natural resources.

The paper concluded with the epitome of the scientific investigations now being carried on in America with the assistance of the Social Hygiene Board, which appeared at length in THE LANCET of March 13th, pp. 622–624.

MEDICAL INSPECTION AND TREATMENT OF SCHOOL CHILDREN IN SCOTLAND.—By an Order in Council, the powers and duties of the Scottish Education Department in regard to the medical inspection and care of children have been transferred to the Board of Health. A memorandum issued by the Board points out the progress already made and the necessity for fresh interest and advance. Special emphasis is laid on the need for preventive work and attention to hygiene of schools and pupils, for physical education and training, the inculcation of sound habits, the teaching of the responsibility of the individual to the community, and the adequate treatment of various ailments. Emphasis is also laid on the need for coöperation between the education and health authorities, in the interests both of economy and efficiency, and it is pointed out that the same officials may with advantage act for the two authorities, and that the same premises may be used. Education authorities are being asked to submit comprehensive schemes of medical inspection and treatment as soon as possible.

MEDICINE AND THE LAW.

Rex v. *Holt*.

THE Court of Criminal Appeal had recently before it the case of F. R. Holt, who was convicted of the murder, near Blackpool, of a woman with whom he had been intimate. The facts have been so widely published that they need not be gone into here. An unusual feature of the case was an attempt on the part of the defence to prove an alibi, and as an alternative defence to show that at the time when the crime was committed Holt was insane, as insanity is defined for the purposes of the criminal law. As to the alibi and any question of whether Holt in fact shot Mrs. Breaks on Dec. 23rd, 1919, on a sand dune near Blackpool, little or nothing was heard in the Appeal Court. Among the grounds of appeal it was argued that evidence had been wrongly admitted upon points not connected with the plea of insanity, but the court was not satisfied as to any of the objections thus raised, and apart from them the main question of the condition of the prisoner's mind when he committed the act of murder was argued at length. Further than this, fresh evidence as to his mental condition was tendered and allowed to be given. Any objection on the part of the Crown was withdrawn at the suggestion of the Lord Chief Justice, who pointed out that in the circumstances the court had a discretion to admit fresh evidence. Lord Reading was further of the opinion that it was desirable both from the point of view of the Crown and in the public interest that such evidence should be sifted in open court. The fresh witnesses showed that Holt had had a female cousin certified and confined in a private lunatic asylum, and that his paternal grandfather had suffered from delusions. A medical man who in the month of December had played cards with him had noticed his lack of power to concentrate his mind upon the game. This, however, was shortly after four days spent with Mrs. Breaks and the prisoner had been a winner at whist, poker, and bridge. More important medical evidence was given by Dr. B. Day, who had treated him in 1916 or early in 1917 for syphilis in its secondary stage, and had considered him then to be suffering from shell-shock. Dr. Day's application for a lumbar puncture to decide the presence or absence of general paresis was refused. In cross-examination of this witness it was mentioned that Holt had since been examined for insurance apparently without syphilis being detected. Two other medical witnesses spoke of conditions observed in 1915 and 1919, and Dr. D. Blair, called as an expert who had heard the evidence given in the Court of Criminal Appeal, was of the opinion that Holt was suffering from delusional insanity before the date of the murder, and that at the time of the murder he was suffering from general paralysis of the insane. Dr. P. Smith was of the opinion that Holt suffered from delusional insanity and was not of sound mind on Dec. 23rd, but that the indications were not manifest before Dec. 25th. In an argument founded upon the evidence, of which the above is a bare outline, and upon that given at the trial, where at first an attempt was made to show that the prisoner was unfit to plead, Sir E. Marshall Hall, K.C., sought to go further than the well-known rule in McNaughton's case. He argued in effect that if a man through no fault of his own had an impaired mental condition affecting his will power he should be deemed insane in respect of a crime from which normal will power would have enabled him to abstain. In other words, that, knowing the nature and quality of his acts and that he was doing wrong, he might be excused on the ground that he was urged by an irresistible impulse. In delivering the judgment of the court, dismissing the appeal on every ground, the Lord Chief Justice pointed out that the question of irresistible impulse had been left to the jury by Mr. Justice Greer at the trial, and that they had not accepted the contention of the defence as to its existence. On the question whether the Court of Criminal Appeal, having heard the fresh evidence adduced, should say that the prisoner was insane when he killed Mrs. Breaks, his lordship said that the new evidence had taken the case no further than before. It was based on hypothetical speculation and the rule in McNaughton's case must be observed. It was not enough that medical witnesses should say that they considered the prisoner insane.

Negligence and Compensation.

On April 1st, in Edinburgh, the First Division of the Court of Session gave judgment in two cases where compensation was claimed under the Workmen's Compensation Act, in which there was negligence on the part of the appellants. In both instances the persons injured were miners, and the circumstances were similar. Both had prepared blasting shots, and when these failed to explode up to time, the workmen returned within the period prescribed by the regulations as being unsafe, with the result that the shots went off and they sustained injuries, in one case fatal. Although there was negligence the court held that the appellants were entitled to compensation. The decision is of interest as it is apparently directly contrary to that given in the House of Lords on March 22nd in the case of Robertson *v.* Woodilee Coal and Coke Company, Ltd. Robertson was killed by an explosion in a pit, which resulted from his striking a match. His widow was held to be unentitled to compensation, as the case was one in which the doctrine of "added risk" was exemplified. The accident resulted from his own action, with full knowledge of the prohibition against it, and of the danger his action entailed.

The City Coroner's Views on Juries.

Dr. J. F. Waldo has issued his annual report as coroner for the City and Southwark for 1919, which, as usual, contains some interesting facts and statistics, accompanied by opinions candidly expressed with regard to them. It is to be observed that the 355 inquests held in the City and Southwark in 1919 exceed by 46 the corresponding number for 1918. This appreciable increase, presumably to some extent, is due to the greater volume of traffic caused by reviving business. At all events, it is greater in the City than in Southwark, 158 deaths having been inquired into in the former as against 132 in 1918. Investigation satisfied Dr. Waldo in 79 cases that inquests were not required. He states that post-mortem examinations were ordered in 85 per cent. of the inquests held by him. Among the comments upon matters concerning his office expressed by the learned coroner, we are a little surprised to read a rather confidently expressed recommendation that the power to hold inquests without juries, given by the Juries Act, 1918, should cease now that peace is established. We were under the impression that coroners were, on the whole, well satisfied with the less cumbrous procedure involved in the change, and that as they are obliged to have juries to take some of the responsibility off their shoulders in cases of suspected murder or manslaughter they would wish matters to continue as they are. We also believed, and, indeed, do believe, that intelligent and busy citizens liable to be summoned as jurors have no wish to see repealed an Act admittedly passed in the emergency of war. With those not intelligent and habitually without occupation, we should have thought that a coroner would gladly dispense. Dr. Waldo declares himself quite satisfied with the quality of the jurors whom he obtains in the City, and therefore maintains that a fairly intelligent jury, assisted and directed by a coroner, is a far better tribunal for the elucidation of truth than a coroner single-handed. This may be so to some extent and in some cases. As a rule, however, we believe the coroner, particularly the medical coroner, would be fully equal to the occasion. Juries of the more intelligent kind are obtainable in precisely those places where their members can least be spared from their business occupations. A man with a family to maintain, a business to reconstruct, and high prices and high taxes to contend with may still have to sit on a jury, if a case of possible murder or manslaughter requires his verdict. He would probably be glad to be freed even from this infrequent duty. He is ready, we feel confident, to leave the medical coroner, assisted by the medical witness, to clear the matter up.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Claims of Returned Medical Soldiers.

SOME feeling has been aroused over recent appointments to the staff of the Melbourne Hospital. Of three vacancies for the post of physician to out-patients, two were filled by applicants who had not done any military service. The Returned Medical Officers Association, which in Victoria is a militant, not to say aggressive, organisation, has protested in the daily papers and by deputation to the hospital committee that an injustice has been done to some of its members, who were candidates for these positions, and demands that the appointments shall be reconsidered. The committee at its last meeting confirmed the appointments. There was a divided opinion as to whether the question should be reopened. The appointments are made in reality by an advisory board, which is constituted by six members of the general committee, three members of the honorary staff, and three each from the University Council and the Faculty of Medicine. This arrangement was substituted for the old election by vote of the subscribers, and so far the general committee has simply endorsed the recommendation of the advisory board without comment. There is no reason to suppose that the selections were made in the instances referred to without the fullest consideration by this expert board, but the heartburning arose from the fact that an applicant who had been on the staff for some years in a junior position, and had done war service oversea, was unsuccessful. Of the two gentlemen objected to by the malcontents, one was admittedly rejected as unfit for military service owing to X ray burns, and the other had a brilliant record as medical superintendent during the war-time and through epidemics of meningitis and influenza. The Council of the Victoria Branch of the British Medical Association forwarded a letter to the hospital committee asking that the principle of preference to soldiers should be strictly observed. This letter is to be made the subject of a special meeting, at which the whole matter will probably be reviewed, although there is no great likelihood that the appointments made will be disturbed. One of the successful applicants has written to the press stating that, in his case, the methods of the Returned Medical Officers Association have nearly approached persecution.

Medical Act of South Australia.

The Medical Act of South Australia, which has just been passed by both Legislatures, is mainly characterised by changes in the powers of the Medical Board. The registration requirements are now similar to those of Victoria, in that no diplomas other than those of the United Kingdom will be accepted unless issued by a country giving reciprocal recognition to South Australian diplomas. The Board is also granted power to apply to the Supreme Court for the removal of names from the Register on various grounds, including being guilty in the Board's opinion of infamous conduct in a professional relation. The fee for registration is £1 1*s.* annually or a lump sum of £5 5*s.* in perpetuity.

Federal Committee of the B.M.A.

At a meeting of the Federal Committee of the British Medical Association, held in Sydney early in February, discussion took place on the subject of extension of public health services, but it was almost entirely academic, and formulated in vague resolutions as to research and investigation into various topics such as infant mortality and the promotion of local "campaigns" against preventable disease. It is a little absurd to waste time and money in establishing expensive commissions and research laboratories when the plain needs are staring everybody in the face. Scarcely one provincial town or city in the whole of Australia has either an adequate water-supply or system of sewage disposal. No amount of research will suggest any defence while such elementary facts are neglected.—A statement in connexion with the Medical Relief Fund for the benefit of returned men showed that £11,456 had been subscribed and £899 disbursed.—In respect of the matter of Dr. Eugen Hirschfeld of Brisbane, it was resolved: "That the Federal Government be asked to deport all medical practitioners of enemy origin who have been interned during the war."—It was resolved to protest against the order of the Minister of Customs by which the importation of vaccines and sera was practically prohibited.

Child Welfare.

A conference on "Boy and Girl Welfare" has been held in Perth, and was addressed by a number of medical speakers. A deputation, with Professor R. J. A. Berry, of Melbourne, as chief speaker, obtained from the Government a promise of an endowment of £2000 per annum for ten years for an institute for the study of feeble-mindedness and the training of teachers.

Personal.

Dr. T. P. Dunhill, of Melbourne, who has been appointed Assistant-Director of Surgery at St. Bartholomew's Hospital, London, under the new teaching scheme of the London hospitals, is well known for his work on exophthalmic goitre, and served with distinction in France, being awarded a C.M.G. Professor W. E. Agar, the newly appointed occupant of the chair of zoology in the University of Melbourne, has arrived, and Dr. F. L. Apperly, the recently appointed lecturer on pathology, is expected shortly.

March 1st.

URBAN VITAL STATISTICS.

(Week ended March 27th, 1920.)

English and Welsh Towns.—In the 96 English and Welsh towns, with an aggregate civil population estimated at nearly 18 million persons, the annual rate of mortality, which had increased from 15·6 to 17·9 in the five preceding weeks, further rose to 18·7 per 1000. In London, with a population of nearly 4½ million persons, the annual death-rate was 19·3, or 1·5 per 1000 above that recorded in the previous week, while among the remaining towns the rates ranged from 10·7 in Coventry, 10·8 in Eastbourne and Cambridge, and 11·1 in Hornsey, to 28·1 in South Shields, 32·2 in Wigan, and 35·7 in Dudley. The principal epidemic diseases caused 477 deaths, which corresponded to an annual rate of 1·4 per 1000, and comprised 214 from measles, 114 from whooping-cough, 64 each from diphtheria and infantile diarrhœa, 18 from scarlet fever, and 3 from enteric fever. Measles caused a death-rate of 1·8 in Liverpool, 2·0 in Barnsley, 2·6 in St. Helens, 3·0 in Wigan, 3·1 in Gloucester, 3·3 in Cardiff, and 4·3 in Lincoln. The deaths from influenza, which had steadily increased from 66 to 312 in the eight preceding weeks, further rose to 392, and included 131 in London, 46 in Birmingham, 21 in West Ham, 14 in Liverpool and South Shields, 13 in Manchester, and 8 in Leyton and Plymouth. There were 2101 cases of scarlet fever, 2043 of diphtheria, and 14 of small-pox under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, against 2158, 2066, and 8 respectively at the end of the previous week. The causes of 44 deaths in the 96 towns were uncertified, of which 13 were registered in Birmingham, 4 in London, and 3 each in Blackpool and Sunderland.

Scotch Towns.—In the 16 largest Scotch towns, with an aggregate population estimated at nearly 2½ million persons, the annual rate of mortality, which had increased from 14·2 to 17·8 in the five preceding weeks, further rose to 18·0 per 1000. The 414 deaths in Glasgow corresponded to an annual rate of 19·4 per 1000, and included 16 from influenza, 12 from measles, 5 from infantile diarrhœa, 2 from whooping-cough, and 1 each from enteric fever and diphtheria. The 93 deaths in Edinburgh were equal to a rate of 14·2 per 1000, and included 2 each from measles and diphtheria and 1 from infantile diarrhœa.

Irish Towns.—The 190 deaths in Dublin corresponded to an annual rate of 23·9, or 0·6 per 1000 below that recorded in the previous week, and included 11 from measles, 10 from whooping-cough, and 2 each from scarlet fever and influenza. The 284 deaths in Belfast were equal to a rate of 35·9 per 1000, and included 30 from influenza, 6 from whooping-cough, 4 from infantile diarrhœa, 3 from measles, 2 from scarlet fever, and 1 from enteric fever.

THE WELLCOME BUREAU OF SCIENTIFIC RESEARCH.—The address of the bureau will, on and after April 15th next, be 25, 26, and 27, Endsleigh-gardens, Gordon-square, London, N.W. 1, Director-in-Chief, Dr. Andrew Balfour.

Correspondence.

"Audi alteram partem."

BIOGRAPHY OF SIR WILLIAM OSLER.

To the Editor of THE LANCET.

SIR,—Lady Osler has requested me to prepare a biography of her husband and I shall be most grateful for any letters or personal reminiscences, or for information concerning others who may possibly supply letters.

Copies of all letters, no matter how brief, are requested, and it is hoped that dates may be supplied if possible.

If the originals are forwarded for copy they will be promptly returned.—I am, Sir, yours faithfully,

HARVEY CUSHING, M.D.

Peter Bent Brigham Hospital, Boston, Mass., March 24th, 1920.

LIFE ASSURANCE AND GLYCOSURIA.

To the Editor of THE LANCET.

SIR,—The importance of the early detection of glycosuria cannot be exaggerated, and the fact that many cases of diabetes are first discovered during the preliminary medical examination is not the least of the benefits life insurance confers. To be fair to the individual on the one hand and not to expose the company to unnecessary risks on the other it is important that such examinations should be carried out with all the aids modern science affords, and I cannot help thinking that the methods for detecting grape-sugar in the urine and arriving at a diagnosis of diabetes mellitus described by Dr. R. T. Williamson in THE LANCET of March 27th must lead to the loss of many reasonably good "lives" by the companies and much unnecessary suffering and discomfort on the part of the proposers, as they will result in the rejection of many persons who are in the unfortunate position of passing reducing substances other than glucose in their urine. These are by no means as uncommon as is generally supposed. During the past year I can call to mind two cases of pentosuria, one of true lævulosuria, and several of pseudo-lævulosuria which had been rejected by medical examiners for insurance companies and told they were suffering from diabetes. The urine in each case gave a definite reaction with Fehling's solution, and yielded an osazone with phenyl-hydrazin, and although the pentoses do not, of course, ferment lævulose and pseudo-lævulose behave like glucose. So long as reliance is placed on one, or even two or three, routine qualitative reactions when examining the urine such mistakes in diagnosis and, what is worse from the patient's point of view, in treatment also will continue to occur. Seeing the ease with which sugar may now be estimated in the blood and the definite indications of defective carbohydrate tolerance which blood analyses yield, it is surprising that writers and medical experts on life insurance have not made more use of this delicate method to confirm the results of urinary analyses. I now place much more reliance on examinations of the blood than of the urine in the diagnosis and treatment of diabetes, and I would strongly urge the wider adoption of blood-sugar estimations. All the rejected cases referred to above showed a normal blood-sugar content, and after a test-meal the percentage of sugar in the blood followed a normal curve, showing that their carbohydrate tolerance was not diminished in spite of the presence of "sugar" in the urine.

Before concluding, may I say with reference to the letter by Dr. O. Leyton on Anæsthetics and Diabetes Mellitus in the same issue of THE LANCET that his experience regarding the effect of anæsthetics on carbohydrate tolerance in diabetes seems to have been unfortunate and, I think, unusual when a patient is carefully prepared for operation. Several of my diabetic patients have undergone serious operations and I have never found any diminution of tolerance to follow; in fact, in one case, where an abdominal tumour was removed from a woman, there was a considerable increase. Anæsthetics, particularly chloroform and ether, are dangerous for diabetics owing to the acidosis they induce, probably owing to their action as fat solvents and their effect on the liver. A couple of weeks on a fat-free diet with alkalies at the time of the operation will do much to minimise the risk.

I am, Sir, yours faithfully,

P. J. CAMMIDGE.

Nottingham-place, Marylebone, W., March 27th, 1920.

To the Editor of THE LANCET.

SIR,—In the valuable paper by Dr. R. T. Williamson on Life Assurance and Glycosuria in your issue of March 27th the writer states his opinion that when rejection of a proposer takes place on account of glycosuria the medical examiner should inform him of the cause, and explain its significance and the importance of treatment. Obviously the same principle would apply to many other causes of rejection discovered by an examiner, particularly to albuminuria and heart lesions. As Dr. Williamson states, it is a rule of many (I should say nearly all) assurance companies that no information as to the result of the examination should be given by the medical officer to the proposer. This is surely a salutary rule, for: (1) the medical officer has no power or right to forecast the decision of the board of directors, whom he advises; (2) all decisions should come from the officials of the company direct, who have other considerations than those purely medical to take into account; (3) a wily proposer will sometimes, on an inkling of an unfavourable verdict, go to another office and say he has not been rejected. Moreover, the examiner, if he followed Dr. Williamson's method, would be advising the proposer on his condition, which is no part of his duty and for which the proposer gives no fee. The rule of giving no information is therefore, in my opinion, a proper one, to be observed however with discretion in the spirit rather than the letter. Thus I have occasionally been asked by the company officials to hint to a certain proposer that advanced terms would probably be necessary, with the view of preparing his mind for them.

Has, then, the medical examiner no responsibility towards the proposer when he discovers some factor of importance, unknown to him, in his physical condition? Undoubtedly he has. How is this to be discharged? By advising him to consult his own doctor, advice which can be made slight or emphatic, according to the need and the proposer's temperament. In this way the duty of the examiner to the proposer, in respect of the knowledge he has acquired, is fulfilled, as well as that to the assurance office. A long and somewhat wide experience of assurance medical practice confirms the writer in the belief that this plan works satisfactorily.

I am, Sir, yours faithfully,

R. HINGSTON FOX.

Devonshire-place, W., March 29th, 1920.

To the Editor of THE LANCET.

SIR,—May I make one or two comments on Dr. R. T. Williamson's interesting paper in your issue of March 27th on this subject, which was discussed pretty fully in 1914 by the Assurance Medical Society, in connexion with a paper read by me, entitled "The Significance of (1) Diabetic Family History, and (2) Temporary Glycosuria in Life Assurance."[1] On this occasion I gave particulars of the family histories of 1143 policy-holders who had died of diabetes: their family histories (in the narrow sense of father, mother, brothers, sisters) showed deaths from undoubted diabetes in 41 cases—i.e., 3·6 per cent.—as against 1·05 per cent. in 1143 control cases of death from other diseases. Evidence was brought forward in favour of the views that there is a special form of family diabetes, tending to occur at an earlier age, and proving fatal more rapidly than the ordinary "acquired" type of the disease, and that this "family

[1] Vide THE LANCET, March 7th, 1914.

type" occurs more commonly in the male than in the female.

I was rather surprised to note that Dr. Williamson made no mention of Benedict's test for glycosuria. This reagent, the use of which Dr. P. J. Cammidge advocated very strongly at the 1914 meeting, is particularly suited for routine use in life insurance work. It is very simple in application, appears to be free from the fallacies inherent in the use of Fehling's solution, and is sufficiently sensitive for all practical purposes.

I cannot help feeling that Dr. Williamson is a little severe in his suggestions as to the treatment that should be meted out by insurance companies to proposers manifesting "temporary glycosuria." The consensus of opinion at the meeting already referred to was in favour of the possibility of such a condition being in many cases nothing more than a functional derangement, and not by any means the inevitable forerunner of permanent disease. Indeed, Dr. Williamson's paper contains several good examples supporting this view. Why, then, should such cases not be taken at ordinary rates if subsequent repeated examinations show no evidence of glycosuria and all other factors—age, habits, family history, &c.—are favourable?

A point of great interest is raised by Dr. Williamson's reference to the rule of most companies that the medical examiner should give no information to the proposer as to the result of the examination. In my opinion, this rule is intended principally to prevent the examiner from telling the proposer that he is a "thoroughly good life," or some similar phrase. For it must be remembered that life assurance is something more than a question of medical examination; the examiner makes a recommendation to the company, but this recommendation is only one of the factors (though an important one) which determine whether the case shall be accepted as a first-class life, rated up, or rejected. Hence it would be obviously undesirable for the examiner, as a result of his investigation, to prejudge the decision of the board, a decision involving other additional considerations. I do not for a moment believe, however, that any company would object to its examiner telling a proposer whom he found to be suffering from glycosuria that there was something about his water pointing to the desirability of his consulting his own doctor. But to go further, as Dr. Williamson suggests, and to enter into an explanation as to the significance of the glycosuria and its prognostic importance, would be unwise and obviously undesirable from many points of view. In any case, the proposer would soon get an indication of the need for medical advice when he found that his proposal had been rejected, deferred, or rated up, as the case may be.

I am, Sir, yours faithfully,

London, W., March 29th, 1920. OTTO MAY.

INTRAVENOUS INJECTION OF TARTAR EMETIC IN GUINEA-WORM INFECTIONS.

To the Editor of THE LANCET.

SIR,—All who have experienced the baffling results which have hitherto met the futile attempts to rid patients of guinea-worm and to check its crippling effects will welcome the valuable contribution by Dr. J. W. S. Macfie on the use of tartar emetic by intravenous injection in this distressing disease, published in THE LANCET of March 20th. It is much to be hoped that the record of ten cases, in which the treatment met with greater success than has yet been attained by any other remedy, will be followed by further observations and tests, and that its value may be definitely established as the reliable cure of guinea-worm.

My own interest in the subject dates back to the years 1902 and 1903, when, as medical officer to the Anglo-French Boundary Commission in the Gold Coast and Ivory Coast Colonies, I was confronted with the harassing problem of how to deal with the infection and to keep down the heavy percentage of invaliding from this cause which occurred among some 400 native carriers and escort during the period of 16 months occupied by the Commission's survey of the western frontier of the Gold Coast. *Filaria medinensis* takes its more familiar name, guinea-worm, of course, from its prevalence among West African natives, and is known to them under such various titles as *Nfa* (Fauti), *Dippah* (Kurtta), *Kbulé* (Mendi), according to the corresponding tribe language or local dialect. Among the carriers of the survey expedition no fewer than 156, or 40 per cent., applied for treatment for guinea-worm, though undoubtedly a larger number actually suffered from the disease. In the cases which came under notice the sites of emergence of the worm occurred as follows:—

	Per cent.		Per cent.
Lower extremity (22% being in the foot)	77	Scrotum (involving the testicle in 1%)...	4·5
Arm or hand...	9	Back and buttocks ...	3·5
Abdominal wall	4	Face	1
		Penis	1

Towards the end of the expedition no fewer than 25 per cent. of the carriers were more or less crippled by the infection. Such a heavy incidence was not surprising considering the liquid filth they frequently drank when on the march; for the disease has long been known to be conveyed through drinking water infested by the minute water insect *Cyclops quadricornis*, the intermediary host of the undeveloped worm.

Multiple infection was by no means uncommon; in 54 cases each patient carried from 2 to 10, in 12 cases 11 to 20, guinea-worms, and one unfortunate sufferer had as many as 25 worms scattered about in various parts of his body at the same time! Guinea-worm was responsible for 15 cases of synovitis, involving the knee-joint in 8, the ankle-joint in 5, and the elbow-joint in 2 cases. In 22 cases incisions were necessary to relieve cellulitis and suppuration in the arm, leg, back, buttock, abdominal wall, or scrotum, and in 2 cases in which the testicle was invaded there were both hydrocele and suppurative orchitis.

Efforts at treatment directed to destruction of the worm in situ by injections of a few minims of a 1 in 1000 solution of perchloride of mercury into the protruding head, or into the substance of the worm where it lay, subcutaneously, were tried with every possible precaution, but were not found a success under the conditions prevailing on the march. Intense swelling of the part injected occurred, and eventually suppuration resulted, probably to be accounted for by local necrosis of the worm and the liberation into the tissues of still active embryos and irritating toxins of the worm. The method was originally introduced by Emily, a French naval surgeon, who claimed remarkable success among his cases thus treated in hospital, where proper rest to the part and every antiseptic precaution were available.

Experience showed that the only reliable and safe method was to follow the long-established custom of slow extraction by cold water douching of the exposed head and by attaching the protruding portion of worm to a small splinter of wood, subsequently each day, by very carefully making a turn of the piece of wood and thus slowly winding the worm out, avoiding any tension likely to break it, an accident inevitably followed by cellulitis or suppuration. In addition to this laborious process of extraction, native methods of treatment which aimed at first killing the worm occasionally proved efficacious. I have notes of two such remedies supplied by one of my hammock-men, a native medicine-man from Kurtta. One consisted in the application of a paste composed of the leaves of a plant belonging to the *Euphorbiaceæ*, called *Addi* in the Kurtta dialect, pounded up with the juice of fresh limes; the other was a Mahomedan remedy, prepared by crushing rock salt with the brown seeds of a common plant and mixing into a paste with oil. It was asserted that the application of either of these pastes to the protruded head would result in the death of the worm in three days, when it was claimed that the dead worm could be extracted *in toto* by winding, without risk of cellulitis or suppuration following. A trial was made of the former of the two native remedies, but results did not justify its further use.

Until the recently advocated treatment by means of intravenous injections of tartar emetic, with the very promising results described by Dr. Macfie in his paper

there has been no advance in our knowledge of an effective cure for guinea-worm which will cut short the tedium and risk of slow extraction by winding in vogue for so many years. It is, therefore, greatly to be hoped that future trials of this apparently successful mode of treatment may result in its recognition as a certain and reliable remedy. I am, Sir, yours faithfully,

Savoy Hill, W.C., April 6th, 1920. J. GRAHAM FORBES.

THE PATHOLOGY OF HEAT-STROKE.

To the Editor of THE LANCET.

SIR,—The intimation in THE LANCET of March 20th by Dr. W. H. Willcox that he regards heat-stroke as an auto-intoxication, and the report of the observation of a leucocytosis in the cerebro-spinal fluid in the same condition by two French workers, both call attention to the fact that there seems to be rather a dearth of information as to the pathology of the condition.

The following notes, unfortunately from memory, may be of interest. Three cases occurring in men of the Guards' Division who had done a long march with full kits under a hot sun came under my care in 1917. One proved fatal in a few hours. At the post-mortem changes indicative of a far-reaching morbid process came to light. In addition to congestion of the cerebral vessels there were petechial hæmorrhages of the pia over the cerebral hemispheres, also of the pericardium, endocardium, and pleura; in one lung, though I cannot exactly remember where, there was a large and very definite area of congestion; there was also a slight increase of the pleural fluid.

In view of my previous entirely unfounded prepossession that the condition was solely a matter of the central nervous system these evidences of widespread damage were surprising. They certainly seem to confirm the suggestion that a toxic agency is at work. In both the cases which survived I found that the headache was relieved by lumbar puncture, which disclosed the fact that the cerebro-spinal fluid was in excess and under pressure. It was perfectly clear, but unfortunately, owing to a rush of work, no investigation of its cytology was undertaken.

I am, Sir, yours faithfully,

S. C. DYKE, M.B., B.Ch., D.P.H. Oxon.,
Assistant Bacteriologist, College of Medicine, Newcastle-upon-Tyne.

Gosforth, March 20th, 1920.

VACCINES AND THE DIPHTHERIA CARRIER.

To the Editor of THE LANCET.

SIR,—The results obtained by Dr. J. L. Brownlie (THE LANCET, March 27th) in the treatment of the convalescent diphtheria "carrier," whilst of the greatest possible importance to the community in general, possess particular interest to workers at Guy's. Since the very early days of the present century it has been our practice to treat with vaccines all students and nurses who develop the carrier habit, and it was the results we obtained that prompted the following paragraph in "Serums, Vaccines, and Toxins" in 1910 (p. 107, repeated in the 1916 edition, pp. 135–176): "In such cases (i.e., cases in which the diphtheria bacillus remains domiciled in the throat, &c., for prolonged periods after the acute clinical symptoms have disappeared) a vaccine should be prepared from that strain of *B. diphtheriæ* actually infecting the patient, standardised and administered in doses of 5 to 10 millions at intervals of five to seven days. One or two injections are usually sufficient to ensure the disappearance of the bacilli from the local site of infection."

The opportunities afforded by a general hospital for the collection of statistical observations in this connexion are limited (for here we certainly do not total more than a score of diphtheria cases per annum), and we consequently welcome the confirmatory evidence on a figure basis so convincingly set out by Dr. Brownlie. My object, however, in writing this note is to point out the two important features in which our practice differs from that of Dr. Brownlie. In the first place, we are convinced of the superiority of the "autogenous" as against the "stock" vaccine, and in the second we insist upon washing the bacilli with several changes of normal saline before using them in the preparation of our vaccine. It is true that, when grown upon solid media, the diphtheria bacillus only forms a modicum of toxin, but strains vary in this respect, and neglect of precautionary measures may lead on occasion to the production of uncomfortable local reactions.

I am, Sir, yours faithfully,

Guy's Hospital, S.E., March 31st, 1920. JNO. EYRE.

LAVAGE OF THE CLOSED PLEURAL CAVITY.

To the Editor of THE LANCET.

SIR,—With great pleasure and approval I have read Dr. F. G. Chandler's paper on Oxygen and Air Replacement of Fluid in the Pleural Cavity in THE LANCET of April 3rd, but I would like to point out that lavage of the closed pleural cavity is not new, as Dr. Chandler believes. In a paper on Penetrating Wounds of the Chest, which I published, in collaboration with Major G. C. Shattuck, of Boston, U.S.A., in the *Journal of the Royal Army Medical Corps* of September, 1919, I made reference to lavage of closed chests. I quote my own words: "Irrigation of the pleural cavity can be performed through the aspirating needle on the syphon principle. Aspiration, sometimes assisted by what may be called 'aspiration-irrigation,' may be the means of effecting a cure when the infection is not too severe."

I am, Sir, yours faithfully,

R. BERTRAM BLAIR, M.B., F.R.C.S. Edin.,
Honorary Assistant Surgeon, Hull Royal Infirmary.

Albion-street, Hull, April 1st, 1920.

TUBERCULOSIS AND PENSIONS.

To the Editor of THE LANCET.

SIR,—Dr. John Guy's note on the Diagnosis of Tuberculosis in Recruits and Pensioners in your issue of March 27th deals with a subject of great importance and one which has been repeatedly discussed by the North of England Tuberculosis Society. My own experience is similar to Dr. Guy's, and my figures, compiled up to Dec. 31st last, show that of 313 ex-Service men who applied for sanatorium benefit 180 had had tubercle bacilli demonstrated in their sputum, and of the remainder 43 had signs of presumptive tuberculosis, while 90, or 28·7 per cent. of the total applicants, showed no evidence of any active tuberculous disease. Surely we have already a sufficient number of tuberculous patients without dissipating our funds on individuals for whom the sanatorium benefit provisions of the Insurance Act were not intended. If, and when, the proposed farm and industrial colonies and village settlements are instituted it is to be hoped that all applicants will be required to undergo a rigorous and searching examination to ensure that the facilities provided will be offered only to persons who are suffering from, or have recently suffered from, clinically recognisable tuberculosis. I am, Sir, yours faithfully,

W. H. DICKINSON,
Tuberculosis Medical Officer, Newcastle-upon-Tyne.

March 30th, 1920.

A WAR MEMORIAL TO BELGIAN DOCTORS.—From *Le Scalpel* for March 27th we learn that the project for a war memorial to Belgian doctors and pharmacists who died or were killed on active service is being energetically conducted by Dr. Clément Philippe. It is proposed to erect a monument in granite in the Place des Barricades at Brussels, near to the statue of Vésale. M. Cancel has been entrusted with its design and execution.

INFLUENZA IN ZURICH.—The epidemic of influenza in Zurich (population 210,000) has now come to an end. 14,534 cases have been reported since Jan. 4th. The total number for January was 1071; in February the records of the four weeks showed 2721, 4140, 3341, and 1899 cases respectively; in March the decrease was rapid, 866, 442, and 45 cases being notified in the first three weeks. The total number of deaths, mostly due to pneumonia, was 229, a mortality of 1½ per cent. In the Canton of Zurich (population 579,000) 141 cases of encephalitis lethargica have occurred, with a mortality of about 30 per cent.

The Services.

ARMY MEDICAL SERVICE.

Temp. Hon. Col. Sir J. Lynn-Thomas (Major, retired, T.F.), relinquishes his temporary commission and retains the honorary rank of Colonel.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Col. J. G. Gill relinquishes the acting rank of Colonel.

Major C. R. L. Ronayne relinquishes the temporary rank of Lieutenant-Colonel.

Major and Bt. Lieut.-Col. F. D. G. Howell to be temporary Lieutenant-Colonel whilst specially employed.

Temp. Capt. H. S. Davidson relinquishes the acting rank of Lieutenant-Colonel.

Major L. A. A. Andrews to be acting Lieutenant-Colonel.

Temp. Capt. (acting Major) H. F. N. Scott relinquishes his acting rank.

The undermentioned relinquish the acting rank of Major: Capts. E. C. Beddows, H. E. A. Boldero, W. P. Croker; Temp. Capts. C. A. Dottridge, R. Scott, O. J. Day, R. L. Crabb, P. Murphy.

Capt. G. D'R. Carr is seconded for service with the Egyptian Army.

Officers relinquishing their commissions:—Temp. Major T. M. Carter (Lieut.-Col., T.F. Res.) (granted the rank of Lieutenant-Colonel); Temp. Capt. C. A. Masson: Temp. Capts. (granted rank of Major) A. J. Ferguson (acting Major), A. W. Rattrie, E. J. Selby, L. ap I. Davies; Temp. Capts. (retaining the rank of Captain) W. H. Weir, C. H. Bryan, H. G. R. Jamieson, R. R. Watts, A. L. Home, G. T. Foster-Smith, J. H. Dove, B. G. Reynolds, T. W. Mason, C. L. Miller, I. W. Magill, C. B. Jones (acting Major), H. A. Haig, J. Buchanan, H. R. S. Van Ryck de Groot, J. Wright, J. B. Fisher, J. H. K. Sykes, C. Samut, C. E. W. Wilmot, A. W. Hendry, N. W. Gilchrist, C. G. Munro, H. B. Taylor, F. A. Osburn, R. G. Struthers, F. P. B. MacTavish, F. McG. Loughnane, J. Butterworth, J. W. Simon, T. G. Dickson, T. D. Morgan, F. W. Jackson, A. D. Moffat, F. W. Stuart, W. S. Booth, H. Somerville; Temp. Hon. Capt. B. E. Hawke (retains the honorary rank of Captain).

SPECIAL RESERVE OF OFFICERS.

Capt. G. Young relinquishes the acting rank of Major.

Lieut. W. Y. Eccott to be Captain.

TERRITORIAL FORCE.

Capt. A. Sutcliffe is restored to the establishment.

1st Southern General Hospital: Major W. Kirkpatrick is restored to the establishment.

2nd Southern General Hospital: Capt. A. G. T. Fisher is restored to the establishment.

TERRITORIAL FORCE RESERVE.

Major C. A. Stidston, from 3rd North Midland Field Ambulance, to be Major.

ROYAL AIR FORCE.

Medical Branch.—Wing Commander C. B. Heald relinquishes his temporary R.A.F. commission on ceasing to be employed.

The undermentioned are transferred to the unemployed list: Capts. I. M. Thomson and L. C. Smith.

THE HONOURS LIST.

A very lengthy list of promotions in and appointments to the Most Excellent Order of the British Empire (civil division) for services in connexion with the war is published in the *London Gazette* of March 30th, and includes the names of the following members of the medical profession:—

K.B.E.

Balfour, I. B., F.R.S.
Hodsdon, Maj. J. W. B., C.B.E.
Wallace, Bt. Lt.-Col. D., C.M.G., C.B.E.
Webb, Bt. Col. A. L. A., C.B., C.M.G.

C.B.E.

Abbott, F. C.
Ackland, R. C.
Barr, Lt.-Col. Sir J.
Brown, R. C., O.B.E.
Cairns, W. M.
Caton, R.
Coates, Col. W., C.B., V.D.
Cresswell, J. E., M.B.E.
Edridge-Green, F. W.
Evans, E. L.
Goodfellow, T. A.
Gossage, A. M.
Granville, A., C.M.G.
Griffith, W. S. A.
Groves, C. N.
Howell, J.
Howlett, E. H.
Johnstone, R. W., O.B.E.
Jones, D. R.
Kerr, J. R.
Laird, W.
Mummery, J. H.
Newbolt, G. P.
O'Brien, R. A.
Porter, J. F., J.P.
Rees, H., J.P.
Roberts, G. A.
Robinson, J., J.P.
Rowland, F. M.
Snowden, Maj. A. de W.
Sutherland, G. A.
Walker, Surg.-Col. F. J., O.B.E., V.D.
Washbourn, W.
Williams, D.

O.B.E.

Adams, E. W.
Allan, H. W.
Angier, F. L.
Arthur, Rev. J. W.
Ashford, W.
Baiss, L. A.
Barclay, A. E.
Barnes, E. G.
Barnes, L. S.
Bates, W. R.
Beath, D. L.
Begg, A. C.
Belben, F.
Berry, Maj. H. P., T.D.
Bott, H., V.D.
Bottomley, F. C.
Briggs, H.
Brightman, Maj. F.
Brown, H. H.
Browne, H. W. L., J.P.
Brydone, J. M.
Bythell, W. J. S.
Calwell, W.
Cardew, G. A., V.D.
Carter, E. G.
Chapman, W.
Christian, L. de B.
Colt T. A.
Cooke, J. G.
Cooper, H. M.
Cotton, C.
Crossman, F. W.
Cuffey, E.
Curtis, F.
Davies, A. V., M.B.E.
Davies, J. D.
Deane, C. C., J.P.
Dearden, C. R.
Dickson, R. S.
Dill, J. F. G.
Dodds, L. G.
Dodds, Miss M. J.
Domville, E. J., J.P.
Dudley, G. J.
Edwards, P.
Fenton, W. W.
Folker, H. H.
Francis, A. G.
Francis, H.
Fryer, G. E.
Furner, W.
Galloway, A. R.
Gilfillan, S. J.
Gordon, A. S.
Gordon, G. R.
Green, E. C.
Gregory, A. J.
Grierson, G. A.
Hall, R. M.
Hendriks, C. M.
Hewer, C. M.
Hewer, E. S. E.
Hill, A.
Hinnell, J. S.
Hooper, A.
Hooper, G. H. J.
James, G. P.
Joynt, Lt.-Col. R. L.
Kerr, H.
King, J. C.
Lansdown, C. E.
Leighton, Lt.-Col. G. R.
Lendrum, J. B.
Leslie, L. F.
Lewis, L., J.P.
Lloyd, F. S.
Lodge, S. D.
Lowe, P. R.
Lowis, H. L.
Lyndon, A.
McIlroy, Miss A. L.
Manning, Maj. N. S.
Marshall, H.
Mason, A., M.C.
Merry, W. J. C.
Miles, A.
Millar, J.
Milligan, Maj. R. A., J.P.
Millson, G.
Modlin, I. G.
Morris, Miss F. M., M.B.E.
Murray, Maj. J.
Nicholls, F. L.
Nunneley, Maj. F. P.
O'Donovan, W. J.
Olive, E. J. P.
Ord, W. W.
Orr, J.
Panckridge, W. P.
Paton, B. L.
Penrose, N. C.
Perry, E. V., J.P.
Picton, L. J.
Prance, G. H.
Priestley, R. C.
Quennell, R. W.
Richmond, D.
Rob, J. W.
Robb, Capt. J. J.
Romer, R. L.
Scarr, G., J.P.
Scott, C. R.
Selby, E. W.
Shaw, W. V.
Shore, T. W.
Simpson, Maj. J. B., T.D.
Sinclair, J. D.
Smeeton, C. W.
Smith, H. W.
Spence, J. B.
Stainthorpe, W. W., J.P.
Sterry, Maj. J.
Thom, J. M., J.P.
Thomas, W., J.P.
Thomas, W. E.
Ticehurst, N. F.
Tuckett, W. R.
Turner, P. D.
Valerie, Capt. J.
Veitch, R. McL.
Visger, C.
Wainwright G. B.
Walker, Capt. J. W.
Wallace, J., M.B.E.
Walters, H. B.
Watson, G. T.
Westwood, A.
White, J. A. T.
Whittingdale, J. F
Whittingham, Miss H. K.
Wilkins, Col. T. J. H.
Willoughby, J. F. D., J.P.
Young, Maj. W., V.D.

M.B.E.

Abbott, T. B.
Anderson, G. R.
Anderton, J. E.
Andrew, B. H.
Annett, H. E.
Armytage, F. F.
Atkinson, J. P.
Baily, E.
Barker, Lt.-Col. F. R.
Berkley, E. J. G.
Bishop, W. H.
Bowman, R. O.
Burges, F. A. L'E.
Burnett, E. J.
Burrowes, H. A., J.P.
Butler, H. B.
Cant, W. E.
Carvell, J. M.
Clarke, A. E.
Cran, G., V.D., J.P.
Dalton, J. H. C., J.P.
Day, G.
Dempster, W. T.
Dent, Maj. H. C.
Dewhurst, J. H.
Dey, A.
Dicks, E. J. C.
Dobie, H.
Dowsing, H. L.
Drapes, T. L.
Duggan, M.
Dunderdale, R. H. W.
Dyson, J. R. H.
Edmunds, F.
Edwards, B. E. J.
Edwards, R. B.
Elliott, A. C.
Evans, H. L.
Evans, W. O.
Fawssett, F.
Felton, E. H.
Forman, B. G.
Forrest, A. W.
Fraser, Miss S. L.
Gardiner, H. W.
Garry, T. G.
Gibson, Capt. J. A.
Given, J. C. M.
Gosse, H. W.
Graham, Lt.-Col. R. B., V.D., J.P.
Gunn, G.
Hainworth, E. M.
Halliwell, J.
Harris, A.
Hayne, L. B.
Healey, J. E.
Hunt, A. H. W.
Iredale, J.
Jackson, D. N.
Jackson, E. S.
Johnston, C. S.
Jones, J., J.P.
Jones, O. T.
Kilner, C. S., J.P.
King-Edwards, T. R.
Langford, Maj. F. C.
Langley, G. J.
Ledingham, A.
Lloyd, Lt.-Col. J. D., T.D., J.P.
Macall, W. N.
Macdonald, J., J.P.
McFadyen, D., J.P.
Mackenzie, K. C.
MacLeod, H. H. B.
Mactier, H. C.
March, J. O.
Marsden, H. H.
Martin, W., J.P.
Maurice, W. B., J.P.
Mitchell, R.
Mooney, A. P., J.P.
Murphy, J.
Normington, A. E.
Oldham, H. F., J.P.
Orford J.
Orme, Mrs. M.
Oyston, W. F.
Parsons, C. O'C.
Parsons, J. E. H.
Petherick, W.
Philpot, J. H.
Pilcher, C. W.
Priest, J. D.
Prowse, J. S.
Randell, R. M. H.
Sawdon, F. R.
Scanlon, L. E.
Scholefield, G. E.
Scorer, F.
Scott, A. T.
Selby, T. J.
Shaw, R. H.
Southam, T. F.
Stewart, D., V.D.
Stewart, W. G.
Stokes, R. D.
Sykes, C. H.
Thorman, W. H.
Thorne, C. A., J.P.
Tonge, E.
Vine, A. B.
Walker, E.
Walker, R. F.
Wallace, J. T.
Ward, E.
Ward, H. P.
Watkins, A. M.
Whitehouse, E. St. J.
Williams, E. R.
Williams, R.
Woodcock, H. C.
Woodhead, H. M.

ST. GEORGE'S HOSPITAL, MALTA, 1915–17: REUNION DINNER.—A dinner will be held in London on June 10th for medical officers, sisters, and V.A.D. nurses of the hospital, and other officers who were members of St. George's Mess. Lieutenant-Colonel A. de C. Scanlan, C.M.G., will take the chair. Those desiring tickets (price 10*s.*) are asked to write to Miss D. C. Hare, M.D., 1, Bickenhall Mansions, W. 1, or Dr. Neill Hobhouse, 146, Harley-street, W. 1, enclosing remittance, before May 20th.

Obituary.

GEORGE ARTHUR WRIGHT, B.A., M.B. OXF., F.R.C.S. ENG.,

EMERITUS PROFESSOR IN THE VICTORIA UNIVERSITY OF MANCHESTER; HONORARY CONSULTING SURGEON, MANCHESTER ROYAL INFIRMARY AND MANCHESTER CHILDREN'S HOSPITAL, PENDLEBURY; LIEUTENANT-COLONEL, R.A.M.C. (T.F.).

Professor G. A. Wright died on March 23rd at Sidmouth, where he had made his home on retiring from Manchester. He was in his sixty-ninth year, his death being the result of pneumonia after only a few days' illness, although he had for years suffered from asthma. In him surgical practice has lost a scholar, an investigator, and a master of his subjects.

George Arthur Wright was son of the rector of Vange, in Essex, where he spent his early years. He went to Marlborough and Oxford, taking a first-class degree in natural science. He graduated M.B. Oxf. from Guy's Hospital in 1877, becoming F.R.C.S. in the following year, and holding resident surgical appointments at his hospital. It was in the year 1880 that he began his career in Manchester as resident surgical officer at the old Royal Infirmary. Two years later he was elected honorary assistant surgeon with charge of out-patients, but 18 years elapsed before his turn came for promotion to the full staff. It was during this period that his original work was mainly done. He treated trigeminal neuralgia with much success by the injection of osmic acid. He was an advocate of early movement of joints near the seat of fractures. From 1882 on he was honorary surgeon at the Pendlebury Children's Hospital, he and the late Henry Ashby making a great name for this hospital and for themselves by their work. Wright produced a monograph on Hip Disease in Children in 1887, and in 1889 there appeared the first edition of the classic "Ashby and Wright" on Diseases of Children. While tuberculous bone disease in children interested Wright most—he was one of the first to treat spinal abscesses by evacuation without drainage—he covered the whole ground of surgical anatomy in a handbook published jointly with Mr. C. H. Preston in 1902. Soon after his succession to the full staff of the Royal Infirmary he had to give up his active connexion with Pendlebury, but as consulting surgeon ever retained his active interest in its welfare and progress. In 1900, after holding for some years lectureships in operative and practical surgery in the University of Manchester, he was appointed to the chair of systematic surgery vacant on the death in South Africa of Professor Tom Jones. This post he filled with distinction till 1911, when on retirement under the age rule his services were recognised by the University with the title of Emeritus. The transfer of the Royal Infirmary from its old home in Piccadilly to the new site in Oxford-road took place while Wright was senior surgeon, and he took a large share in the negotiations and in the planning of the new buildings. While teacher of surgery he examined at his old University of Oxford, and also at Birmingham and Liverpool, besides being an internal examiner at Manchester. He served for many years on the Council of the Royal College of Surgeons of England.

Professor Wright made for himself a well-earned reputation as a teacher of clinical surgery, and his ward classes were largely attended. He could not tolerate sham or attempts at concealment, for he was singularly out-spoken himself, expressing his opinions regardless of consequences. His lectures were no mere text-book transcriptions, but were founded on his own wide clinical experience, and he never tired of advising the student to read surgical classics, such as Hilton's "Rest and Pain." His interest in all that affected medical politics was great, and it was characteristic of his outlook that he was not always to be found in the camp of the majority. He took especial interest in the foundation of the National Medical Union and presided over it for some years. His interest in his students was shown in friendly talks at his own home over class examination papers, and by his long and at last successful efforts to found a senior medical students' hostel in Manchester. Lister House owed much to him, and many students now on the staff at Manchester or elsewhere look back gratefully to pleasant afternoons and evenings at his house in Oxford-road or at Bowdon and Holmes Chapel. As a colleague he was a firm friend, with generous and kindly instincts. No consultant in the North was so often invited to settle ethical disputes amongst his brethren, and he used to favour the institution of a course of lectures on medical ethics. He was, apart from professional life, an enthusiastic sportsman, and while still engaged in active practice it was his custom for many years to spend the week-ends at his cottage in Cheshire, where he took a great interest in gardening, and had abundant opportunities of indulging in his favourite pastimes, shooting and fishing.

Sir William Thorburn writes: "George Arthur Wright came to Manchester in 1880, and from the first impressed himself upon the profession as a man of exceptional ability and of great personal charm. I was a medical student when I came under Wright's influence, and can never forget his clear and lucid teaching, his patient sympathy, and his devotion to the interests of the medical school of which he was to become so great an ornament. Perhaps the happiest work of Wright's life was done at the Children's Hospital at Pendlebury. Himself childless, he was devoted to the young, and a true lover also of animals. With children he was a universal favourite, and the surgery of childhood was his main preoccupation. No doubt his painstaking and accurate observations in connexion with the surgery of the hip-joint have called for modifications with the progress of time, but he laid the basis of much of our present knowledge, while his work, written in conjunction with his intimate friend, Henry Ashby, upon Diseases of Children, will be a permanent monument. Wright took a most active interest in all matters of public importance in connexion with the profession. Of strongly conservative views, he was unbending in his advocacy of whatever he believed to be the right course, but he never failed to hold the esteem and even the affection of his most bitter opponents. His honesty of character and his loving and affectionate disposition endeared him to all. As a colleague the strongest impression which he gave was that of *reliability;* his surgical opinion was always sound and carefully reasoned; his clear and direct vision were unfailing. Whatsoever his hands found to do he did it with his might."

When the scheme of Territorial hospitals arose, Wright was selected in 1908 as first administrator of the 2nd Western General. This post he had already given up before the war, but his interest in military surgery never waned and he returned from retirement to take charge of a Red Cross auxiliary hospital at Worsley Hall, and later was appointed to command the surgical section of Queen Mary Hospital at Whalley, with his old rank of lieutenant-colonel. Retiring finally to Sidmouth in June of last year, he did not long survive to enjoy the fruits of leisure. His body was cremated at Golders Green. At a meeting of the board of management of the Manchester Royal Infirmary, on March 30th, a resolution was passed expressing appreciation of Mr. Wright's long and fruitful period of work at the infirmary, and sympathy for his widow.

ROYAL INSTITUTION OF GREAT BRITAIN.—Major G. W. C. Kaye will deliver the first of two lectures on Recent Advances in X Ray Work on April 13th, at 3 o'clock.

DONATIONS AND BEQUESTS.—The late Mr. Francis Wakefield Russell Skey, of Maida Vale, W., among other bequests left £2000 each to St. Bartholomew's Hospital and the Prince of Wales's Hospital Fund; £1000 to the Essex County Hospital, and ultimate residue of about £20,000 to St. Dunstan's Hostel for the Blind.—The late Dr. Cecil Rupert Chaworth Lyster, one of the pioneers in X ray investigation, has left £100 to the Middlesex Hospital Medical School to endow a prize for physics.

Medical News.

UNIVERSITY OF DURHAM: FACULTY OF MEDICINE.—At the Convocation held on March 27th the following degrees were conferred:—

Doctor of Medicine (Essay).—Frederick John Nattrass and Harry Reah.

Doctor of Medicine for Practitioners of 15 years' standing.—Charles Edwards, David Fyfe, John Livingston, and Richard Galway Murray.

Doctor of Hygiene.—William Henry Rowell.

Bachelor of Medicine and Bachelor of Surgery.—Tom Hugh Ronald Anderson, Paige Canney Arnold, Neil Robertson Beattie, John Francis Carter Braine, Robson Christie Brown, John Hetherington, George Hurrell, and Carl Damien Newman.

Bachelor of Medicine.—Arthur Patterson.

Bachelor of Surgery.—James Dixon Johnson.

Bachelor of Hygiene.—Sidney Scott and Arthur Henry Towers.

Diploma in Public Health.—Sidney Scott and Arthur Henry Towers.

Licence in Dental Surgery.—James Leslie Liddell.

UNIVERSITY OF LIVERPOOL: LIVERPOOL SCHOOL OF TROPICAL MEDICINE.—The Senate has awarded the Diploma in Tropical Medicine of the University of Liverpool to the following:—

W. J. W. Anderson, M.D. Leeds; C. E. Cobb, L.R.C.P. Lond., M.R.C.S.; Enid M. M. Cobb, L.R.C.P. Lond., M.R.C.S.; D. D. Fernandes, L.R.C.P. & S. Edin., L.R.F.P.S. Glasg.; P. T. J. O'Farrell, L.R.C.P. & S. Irel.; E. A. Renner, M.B., Ch.B. Edin.; and J. C. Vaughan, M.B., Ch.B. Glasg.

UNIVERSITY OF DUBLIN, SCHOOL OF PHYSIC, TRINITY COLLEGE.—At examinations held recently the following candidates were successful:—

FINAL MEDICAL EXAMINATION.

Part I., Materia Medica and Therapeutics; Medical Jurisprudence and Hygiene; Pathology.—Eric Sealy Horgan (high marks), Eric Richard Murray (high marks), Leo Herzenberg (high marks), Hector Charles Chatterton Deane, Edith Florence Willock, Patrick Mary Joseph Bobbett, Constance McIlrath, Leo Vincent Clifford, Donald Victor Latham, Michael Raphael Coolican, Thomas Whelan Panter, and Rita Dillon-Leetch.

Materia Medica and Therapeutics; Medical Jurisprudence and Hygiene.—Alfred Henry Norman Todd and Vera Gladys May Menary.

Pathology.—Doris Holland.

Pathology, completing Examination.—Francis Young Pratt, Robert Henry Joseph Mulhall Corbet, James Daly Leahy, Richard Wood Power, Robert Sturgeon Chapman, Alfred John Beckett, and John Mervyn Semple.

Part II., Medicine.—Philip Jabkovitz, Bernard Moshal, George Hall Davis, Henry Allman Lavelle, Adrian Johannes Louw Snijman, Salmon Louis Feldman and William Bernard Joseph Pemberton (equal), Joseph Ballantyne Maguire, William Theodore Micks, Athanas Blagoff, Arthur Isaac Steyn, Francis Healy and Daniel McElwee (equal), Samuel Reginald Hill, Johannes Marthinus Benjamin de Wet, Herbert Victor Exner, Richard Esmonde Murphy and John Farneworth Sheppard (equal), Elsie Anna Burns, and Johannes Philippus de Villiers.

Surgery.—Salmon Louis Feldman, Wonter de Vos Scholtz, George Hall Davis, William Burton Fox, Olive Baile and Frederick William Robertson (equal), Eileen Hilda Dowse and Joseph Hirschmann (equal), Janie Millar Cummins, William Frederick McConnell, Johannes Marthinus Benjamin de Wet, John Farneworth Sheppard, Daniel McElwee, Essie Stuart Smyth and John Richard Waugh.

Midwifery.—Henry Allman Lavelle (high marks), Bernard Moshal (high marks), Adrian Johannes Louw Snijman (high marks), George Hall Davis (high marks), Frederick Ziervogel Van der Merwe, Maurice Nurock, Johan Frederik Wicht, Herbert Victor Exner, Johannes Cornelis Coetzee, Eric William Swain Deale and Francis Victor Small (equal), Christopher John Laurence Brock, Johannes Marthinus Benjamin de Wet and William James Alexander Russell (equal), Moira Mary Brown, Doris Louisa Graham, Elsie Anna Burns, and Isaac Levy.

DIPLOMA IN PUBLIC HEALTH.

Part I., Bacteriology, Chemistry, Physics, and Meteorology.—Cornelius Charles Boyle, Charles Joseph McCarthy, Patrick Rock, James Lyons, Thomas Declan Power, Matthew Joseph Graham, Percival Atkin Dormer, Charles Henry Comerford and John Francis Gaha and Charles Edward Pengelley (equal), Alfred Henry Price and Edwin Lawrance Sturdee (equal), William Benjamin Walker, and Mary Christina Sheppard.

Part II., Sanitary Engineering, Sanitary Inspection and Report, Hygiene, Epidemiology, Vital Statistics, Public Health Law.—Thomas Declan Power, Charles Joseph McCarthy, Edwin Lawrance Sturdee, James Lyons, William Benjamin Walker, Norman Parsons Jewell, George Francis Innes Harkness, Percival Atkin Dormer, Cornelius Charles Boyle, William Henry Sutcliffe, and George Oliver Fairtlough Alley.

ROYAL MEDICAL BENEVOLENT FUND.—The annual meeting of the Fund was held on March 16th, with Sir Charters Symonds in the chair. The financial report presented showed that donations and subscriptions exceeded by £196 those of the previous year, the total amount distributed being £2532. Attention is drawn in the report to the need of an additional £1000, since owing to the increased cost of living it is necessary to increase the amount of the grants. Up to the present only about 7 per cent. of the medical profession have contributed to the Fund. The annuitants now number 178. The War Emergency Fund has distributed a total amount of £8540. Sir Thomas Barlow was elected president, Sir Charters Symonds honorary treasurer, and Dr. G. Newton Pitt honorary secretary for the ensuing year. Donations and subscriptions may be sent to the honorary treasurer, at 11, Chandos-street, Cavendish-square, London, W.1.

At the last meeting of the committee of the War Emergency Fund, Sir Alfred Pearce Gould in the chair, grants amounting to £800 were made to seven of the applicants. This Fund considers applications from demobilised R.A.M.C. officers, with a view of assisting them to re-establish themselves in their practices.

KING EDWARD'S HOSPITAL FUND FOR LONDON.—A Statistical Report Committee, consisting of Sir Arthur Stanley (chairman), Sir Cooper Perry, and Mr. Leonard L. Cohen, has been appointed to consider suggestions for the enlargement or improvement of the Fund's statistical report, and to make recommendations.

HARVEIAN SOCIETY.—The next meeting of this society will be clinical, and will be held at the Maida Vale Hospital for Nervous Diseases on Thursday, April 15th, at 5.30 P.M.

LEICESTER MEDICAL SOCIETY.—A short course of post-graduate study has been arranged to start on Tuesday, April 13th, continuing every Tuesday until May 11th. Lectures will be given by Dr. W. Langdon Brown on the Sympathetic Nervous System and the Ductless Glands, Glycosuria, and Disorders of the Digestive System.

FOOD EDUCATION SOCIETY.—A Conference on the Prevention of Diseases of the Teeth will be held at Manchester on May 13th-15th, 1920, under the auspices of the Food Education Society, Danes Inn House, 265, Strand, W.C.2, from whose secretary full particulars may be obtained.

THE FEDERATION OF MEDICAL AND ALLIED SOCIETIES.—At the monthly meeting of the Executive Council of the Federation held at 11, Chandos-street, W., on March 30th, it was resolved to set up an "Advisory Council" composed of the representatives of all the corporate and individual representatives in order that the views of all the societies coöperating should be more readily available to the Executive Council. It was resolved to invite the British Medical Association to reopen the conferences between various medical bodies held in May, June, and July, 1919, with a view to securing closer coöperation. A number of medical men were elected individual associates of the Federation. Dr. A. Blackhall-Morison (North London Medical and Chirurgical Society), Dr. E. H. M. Stancomb (Southampton Medical Parliamentary Committee), and Dr. G. B. Batten (Sydenham District Medical Society) were elected members of the Executive Council.

QUEEN CHARLOTTE'S HOSPITAL.—Sir Samuel Scott presided at the annual meeting of governors on March 30th. After referring to the loss sustained in the death of Lord Portman, President of the hospital for 30 years, he recorded the increasing demand on the services of the hospital, nearly 2000 patients having been treated during the year in the wards and a similar number attended in their own homes, while over 5000 patients had passed through the antenatal and child welfare departments. In consequence of the continued increase in prices there was a deficiency on the year's working of £2071. As a consequence, the committee was unable to proceed with the new out-patient department and other urgently needed improvements. There had been a large increase in the number of medical practitioners, students, midwives, and nurses entering for training, some members of the Colonial and American medical and nursing services having taken out courses on demobilisation. He appealed for increased support to enable the hospital to pay off a debt of £11,000 accumulated during the war, and for £100,000 estimated as required to make the hospital adequate to cope with the demands upon its assistance.

NORFOLK AND NORWICH EYE INFIRMARY.—This infirmary is the only hospital in the eastern counties entirely devoted to the treatment of eye diseases. At the annual meeting of the subscribers, held recently, the chairman of the committee, Mr. E. Knight, said he hoped that in the near future an ophthalmic block would be built in the grounds of the Norfolk and Norwich Hospital, and that, in his opinion, the Eye Infirmary would be in a much stronger position if amalgamated with the hospital. The medical report for 1919, signed by Mr. C. J. Muriel, Mr. Arthur Greene, and Mr. G. Maxted, the honorary surgeons to the institution, calls attention to the inadequacy of the number of beds, and consequent delay in treatment, patients having sometimes to wait months for admission. During the year 244 in-patients were admitted, and 13 pensioners sent by the War Pensions Committees. The average duration

of each patient's stay in hospital was 14 days. There were 235 operations performed. In the out-patient department the total number of attendances was 4727, the number of new patients 1628, and of pensioners 96. The average attendance per day was 31, and the number of accidents 383. The number of pairs of spectacles prescribed was 610. This hospital, like most others, is in want of funds. A sum of £260, realised by a children's fancy dress ball at St. Andrew's Hall, Norwich, during the winter, and two concerts organised by friends of the institution helped to augment the funds, which are greatly in need of further help.

GREAT NORTHERN CENTRAL HOSPITAL.—H.M. Queen Alexandra will attend the matinée at the Palladium on May 24th to celebrate the jubilee of the Ladies' Association of the Great Northern Central Hospital, Holloway. An imposing list of patronesses and patrons has been secured.

EDINBURGH ROYAL INFIRMARY.— The special campaign organised to raise funds for the Royal Infirmary was opened in the City Chambers, Edinburgh, on March 30th. The Lord Provost, Sheriff Crole, and Sir Alfred Ewing, Principal of the University, spoke of the valuable work done by the institution, and of the important part it played in connexion with the nation, the city, and the great medical school of Edinburgh. Expenses had enormously increased; several departments were in urgent need of enlargement and additional equipment; the nursing staff needed to be augmented, and it was sought to reduce the hours for the nurses. In order to do this their numbers would have to be increased. The infirmary supplied a great need, and, moreover, the reputation of the Edinburgh Medical School was largely dependent upon the facilities for teaching in the wards of the infirmary. All these things were pointed out by the speakers. During the past year the directors have been compelled to reduce the deficit by the application of legacies received. The people who benefit most from the infirmary are the workers, some of whom make regular contributions. The sum required is £250,000 for renewals and extensions, and a further £50,000 for the annual upkeep.

ROYAL PORTSMOUTH HOSPITAL.—The report of this hospital for the year 1919 was presented to the subscribers at the annual meeting held in the Town Hall on March 26th. The military wards have been handed back and the hospital has returned to normal peace conditions. The total number of patients treated was 12,062—viz., in-patients 2397, out-patients and casualties 9665. The average cost per bed occupied was £115 2*s.* 4*d.*, and of each in-patient was £6 14*s.* 10*d.*, as compared with £3 16*s.* 6*d.* in 1913. The expenditure upon salaries of nurses, &c., also shows a large increase. The excess of expenditure over income, excluding legacies, amounted to £7386. The number of attendances was 19,847, as compared with 11,144 in 1918 and 8636 in 1917. The number of patients would probably have been greater had it not been for the inadequate accommodation. To meet the increasing demands for general treatment the Portsmouth Corporation have decided to erect temporary additions to the present building. The venereal diseases department has proved a success, and 949 new patients have attended, making a total of 2136 since the opening of the department in February, 1917. The Committee of Management has been reorganised and the working classes have been given a larger direct interest in the control of the institution. This new constitution will, it is hoped, increase the confidence of the public in the government of the hospital and be the commencement of a new era of prosperity.

ROYAL VICTORIA HOSPITAL, BELFAST.—At the annual meeting of the supporters of the Royal Victoria Hospital, held on March 31st, it was shown that the annual report presented more satisfactory features than any previous one except on the financial side. Each intern surgeon had performed about 300 major operations in the year, the total mortality for these operations being only 2·81 per cent. Of the operations 712 were abdominal, with a death-rate of only 5 per cent. A travelling X ray apparatus is being provided by the board of management, so that patients can be radiographed in their beds. The bacteriological department has been made more efficient, and a dental department has been inaugurated. No less than 265 students have enrolled their names. The year ended with a deficit of £5745, and it has been estimated that, owing to the rising prices, a sum of at least £7000 must be provided for the current year's income. It is realised that to secure an annual and certain income for the upkeep of the hospital reliance must be placed on those who get the greatest advantages therefrom—namely, the employers and the work-people. Both these sections of the community in Belfast have made enormous sums of money during the war and are still making good incomes, and for both the Royal Victoria Hospital is an admirable insurance against accidents and disease; they are therefore both asked to give far more generously to its funds.

Parliamentary Intelligence.

HOUSE OF COMMONS.

MONDAY, MARCH 29TH.

An Officer's Medical Appeal.

Mr. BOWERMAN asked the Parliamentary Secretary to the Pensions Ministry whether the claim to a pension by Mr. P. H. Young, late second lieutenant, The Buffs, might be reconsidered in view of the medical evidence presented by this officer to the effect that a contracted muscle in the leg, due to wounds, would never improve.—Sir J. CRAIG replied: This officer was awarded a gratuity under Article 8 of the Royal Warrant of August 1st, 1917, as being disabled to the extent of less than 20 per cent., but in view of the appeal which the honourable Member makes on his behalf arrangements are being made to have him re-examined by a medical appeal board.

Tool-grinders and Fibroid Phthisis.

Mr. WILLIAM THORNE asked the Secretary for the Home Department if he was aware of the death-rate in the tool-grinding and polishing industry; that a large percentage of the men suffered from phthisis; that the men in question were not scheduled under the Workmen's Compensation Act as a dangerous trade; and whether, in consequence of the death-rate and the amount of illness through this virulent disease, he could state if he could see his way clear to have an inquiry into the trade, or if he would have it scheduled as a dangerous trade.—Mr. SHORTT replied: The workers employed in certain sections of the metal-grinding trades do undoubtedly incur serious risk from the disease known as fibroid phthisis or silicosis, and a special inquiry into these trades is already in progress with a view to supplementing the regulations at present in force for the prevention of the disease, and to make a scheme or schemes of compensation under the special powers given for this purpose by the Workmen's Compensation (Silicosis) Act of 1918. The inquiry is a difficult one and has to cover a wide field, but it is being pressed forward as rapidly as possible.

TUESDAY, MARCH 30TH.

Treatment of War Nurses.

Mr. GRUNDY asked the Secretary for War whether his attention had been drawn to the public appeals being made, in connexion with the Nation's Fund for Nurses, for charity for nurses who gave their services to the country during the war; whether the treatment of these nurses had been such as to render appeals for charity necessary; whether he knew or would ascertain the identity of the voluntary aid detachment nurse Juliet, referred to in the public appeal as a nurse who went through the war and who now suffered from bad eyesight and shattered nerves and was in precarious circumstances; and whether, in order to remove doubts, he could make a statement as to the treatment accorded to nurses who served during the war.—Sir A. WILLIAMSON (Financial Secretary to the War Office) replied: Nurses temporarily employed by the War Office during the war have received pay and allowances on appropriate scales, and have been treated in case of disability on the same lines as members of the Queen Alexandra's Imperial Military Nursing Service. The War Office is not responsible for nurses employed by the British Red Cross Society or other organisations. If the nurse to whom the honourable Member refers was employed by the War Office, and he is not satisfied that she has received proper treatment, perhaps he will let me have further particulars.

Medical Officer's Return from Mesopotamia.

Major D. DAVIES asked the Secretary for War whether instructions had been given for the return from Mesopotamia of Captain Milton Jones, R.A.M.C., whose release had been applied for by the Montgomery Insurance Committee; and when Captain Milton Jones's return might be expected.—Sir A. WILLIAMSON (Financial Secretary to the War Office) replied: The General Officer Commanding in Mesopotamia has been informed by cable that Captain Milton Jones is urgently required, and this will be considered in assessing his claim for priority of release. In view of the fact that Captain Jones is 27 years of age and has served since November, 1917, it is not considered advisable to issue orders for his return which would give him priority over other officers of greater age and longer service who are similarly detained in Mesopotamia.

WEDNESDAY, MARCH 31ST.

Ex-Service Men in Public Asylums.

Major ENTWISTLE asked the Minister of Health if he would state how many discharged soldiers and sailors were at present in public asylums; and if it was intended to provide any other accommodation for these men.—Major BAIRD (Under Secretary for Home Affairs) replied: My

right honourable friend has asked me to reply. The number is about 4000. As regards the second part of the question, so far as I am aware, there is no intention to provide other accommodation for these men, and I am advised that there would be serious objections to treating these cases in special establishments. The matter is discussed in the report of the Board of Control for 1917. There is also the important point that under the present arrangements it is possible in many cases to transfer to an asylum closer to his relatives, and a large number of applications for such transfers have been received.

Lieutenant-Colonel MALONE: Are not many of these cases not really very serious, and likely to return to complete sanity if they were put into more suitable accommodation?—Major BAIRD: I do not think that follows. I think they are receiving the best possible treatment likely to lead to their recovery.

Grants in Aid for the Blind.

Captain REDMOND asked the Chief Secretary to the Lord Lieutenant of Ireland whether he was aware that the Ministry of Health was now making grants in aid of services for the blind in Great Britain, and that their lordships of the Treasury had promised to ask Parliament to vote an interim grant of £12,000 for services carried on for the benefit of the blind in Ireland; and if he would state when the House would be asked to sanction this amount.—Mr. MACPHERSON replied: The reply to the first part of the question is in the affirmative. As regards the latter part, a Supplementary Estimate for the current financial year makes provision, amounting to £7000, for the payment of instalments of grants at a rate not exceeding 50 per cent. of the estimated grants for the year.

Tuberculous Soldier in Barnstaple Workhouse.

Captain TUDOR REES asked the Minister of Pensions whether he was aware that a discharged soldier suffering from tuberculosis had been in the Barnstaple Workhouse for five months, and that appeals had been made without success to the Pensions Ministry for his removal, and that the man was now in a serious condition; and whether he would take steps to have him removed for treatment to a military hospital or elsewhere.—Sir L. WORTHINGTON-EVANS replied: In the time at my disposal I have not been able to ascertain the facts of the particular case, but as I explained recently in reply to a general question on this subject, when a man enters a Poor-law institution for treatment of a war disability notification is at once sent to the Local War Pensions Committee, who take steps to remove him in order that he may be given the special treatment which his disability requires. If my honourable and gallant friend will give me particulars of the case I will have immediate inquiry made and will inform him of the result.

Captain T. REES: Is the right honourable gentleman aware that appeals have been made by the Local Pensions Committee in London without any effect?—Sir L. WORTHINGTON-EVANS: My honourable friend has not given me an opportunity to make my inquiries, so that it is obvious that I do not know that. If he will give me that opportunity I will see to it at once.

Zymotic Diseases at Woodford.

Mr. R. YOUNG asked the Minister of Health how many persons had suffered from zymotic diseases in the Woodford parish of Essex and the number of deaths monthly since April, 1919; and whether the main contributory cause was that in wet weather the sewage conduit pipe leading to the sewerage works of the Woodford Council overflowed into the adjoining ditches and that those ditches had not been properly cleared and cleansed.—Dr. ADDISON replied: The total number of notifications of zymotic and other infectious diseases in the parish since April 1st, 1919, is as follows: Diphtheria, 48; scarlet fever, 38; measles and German measles 26; enteric fever, 1; puerperal fever, 1; malaria, 17; influenzal pneumonia, 20. The only deaths in the parish from zymotic diseases during the same period were five deaths from diphtheria. I have no complete information as to the number of notifications and deaths for each month during that period. As regards the last part of the question, I am advised that there is no ground for believing that the condition of the sewage conduit pipe referred to is a contributory cause of illness or death from zymotic disease.

Welsh Board of Health Appointments.

Mr. A. T. DAVIES asked the Minister of Health what were the important administrative appointments already made in connexion with the Welsh Board of Health; and how many of these, if any, had been given to women.—Dr. ADDISON replied: The only important administrative appointments made in connexion with the Welsh Board of Health are the following: The chairman, the Housing Commissioner, and the Deputy Controller of Insurance have been appointed as members of the Board. A medical officer has also been appointed temporarily to the Board. The post of secretary has been filled, the secretary being ex-officio a member of the Board.

Mr. DAVIES asked the Minister of Health if he had succeeded in finding a suitable woman member for the Board, and if not whether he would take the advice of well-known women's organisations on the subject.—Dr. ADDISON replied: I have not hitherto sought to appoint a woman as member of the Board of Health in Wales, because there is no woman member of the staff of the Ministry in Wales with appropriate responsibilities and experience.

Influenza.

Major ENTWISTLE asked the Minister of Health what steps had been taken, and what steps he proposed to take, with regard to the increase in the number of deaths as a result of influenza.—Dr. ADDISON replied: In the reply which I gave on Feb. 23rd to Lieutenant-Colonel Raw is contained a complete statement of the steps which have been, and are being, taken for dealing with an epidemic of influenza should it occur. I am advised that the recent small increase in the number of deaths from influenza may be attributed partly to the normal rise which usually occurs at this season of the year, and possibly also to some deaths from pneumonia being ascribed to influenza as a contributory cause. It is noteworthy that the number of deaths from pneumonia has remained practically constant each week since the end of January last.

Medical Diary.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE 1, Wimpole-street, W.

MEETINGS OF SECTIONS.

Thursday, April 15th.

DERMATOLOGY (Hon. Secretary—Henry MacCormac): at 5 P.M.
Cases (4.30 P.M.):
Dr. Barber: Cases of Lupus Erythematosus treated by Autogenous Streptococcal Vaccine.
Other cases will be shown.

Friday, April 16th.

CLINICAL (Hon. Secretaries—T. P. Legg, S. A. K. Wilson): at 5.30 P.M.
Cases (at 5 P.M.).

ELECTRO-THERAPEUTICS (Hon. Secretaries—Walter J. Turrell, Stanley Melville): at 8.30 P.M.
Mackenzie-Davidson Memorial Lecture:
Professor Sir Ernest Rutherford: Development of Radiology.

SOCIETY FOR THE STUDY OF INEBRIETY, in the Rooms of the Medical Society of London, 11, Chandos-street, Cavendish-square, W.
TUESDAY, April 13th.—4 P.M., Annual Meeting. Election of President, Council, and Officers for the ensuing Session. Discussion on Analytical Psychology in Alcoholism, opened by Dr. M. Nicoll.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, W.
MONDAY, April 12th.—12.15 P.M., Dr. Burnford: Pathological Demonstration. 5 P.M., Dr. A. Saunders: Nephritis in Children.
TUESDAY.—12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 5 P.M., Mr. Banks Davis: Clinical Lecture. I.
WEDNESDAY.—2 P.M., Mr. Addison: Operations. 5 P.M., Dr. Beddard: Practical Medicine. Lecture I.
THURSDAY.—2 P.M., Mr. B. Harman: Irido-cyclitis. 5 P.M., Mr. Page: Anæsthetics.
FRIDAY.—2 P.M., Dr. Fernet: Skin Department. 5 P.M., Dr. G. C. Low: The Examination of the Fæces in Tropical Disease.
SATURDAY.—12 noon, Mr. Sinclair: Surgical Anatomy of the Abdomen. 2 P.M., Dr. Owen: Medical Out-patients.
Daily:—10 A.M., Ward Visits. 2 P.M., In-patient and Out-patient Clinics and Operations.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.
MONDAY, April 12th.—2 P.M., Dr. Melville: X Ray Department.
TUESDAY.—2 P.M., Dr. D. Grant: Throat Department. 2.30 P.M., Demonstration:—Dr. Punch: Advanced Cases.
WEDNESDAY.—10.30 A.M., Dr. Punch: Demonstration of Museum Specimens. 2 P.M., Dr. Gosse: Cardiographic Department. 2.30 P.M., Demonstration:—Dr. Wall: Advanced Cases.
THURSDAY.—10.30 A.M., Dr. Burrell: Artificial Pneumothorax. 2.30 P.M., Demonstration:—Dr. Burrell: Advanced Cases.
FRIDAY.—2 P.M., Dr. Melville: X Ray Department. 2.30 P.M., Demonstration:—Dr. Maitland: Advanced Cases.
SATURDAY.—1 P.M., Dr. Batty Shaw: Special Demonstration in the Out-patient Department.

UNIVERSITY OF SHEFFIELD—FACULTY OF MEDICINE POST-GRADUATE LECTURES, at the Sheffield Royal Infirmary.
WEDNESDAY, April 14th.—4 P.M., Prof. Connell: Clinical Cases of Bone Lesions.

MANCHESTER ROYAL INFIRMARY POST-GRADUATE CLINIC.
TUESDAY, April 13th.—4.30 P.M., Lecture:—Dr. W. F. Shaw Uterine Hæmorrhage.

SALFORD ROYAL HOSPITAL AND ANCOATS HOSPITAL POST-GRADUATE DEMONSTRATIONS, at the two Hospitals alternately.
THURSDAY, April 15th.—4.30 P.M., Dr. Langley: Mitral Incompetence and Ability to Work. (At Ancoats Hospital.)

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BOWER, E. D., M.D. Durh., F.R.C.S. Edin. has been appointed Consulting Ophthalmic Surgeon to the Gloucestershire Royal Infirmary.

HADFIELD, G., M.D. Lond., Pathologist to the Bristol General Hospital.

HOWELL, B. W., F.R.C.S., Assistant Surgeon to the Queen's Hospital for Children, Hackney-road.

LAKIN, C. E., M.D., F.R.C.P., Physician to the Middlesex Hospital.

London Hospital Medical College: HOLLAND, E. L., M.D. Lond., and LUKER, S. G., M.B. Cantab., Joint Lecturers on Midwifery; CULPIN, M., M.B., B.S., Lond., Lecturer on Psycho-Neuroses.

Certifying Surgeons under the Factory and Workshop Acts: HAMILTON, E. S. B., M.B., Ch.B. Edin (Salford and Stretford); ACHESON, D. R., M.B., Ch.B. Belf. (Berkeley); BROCKET, J., M.B., Ch.B. Edin. (Stourport); UPWARD, H. A., M.B., B.C. Cantab. (Romford); THOMPSON, W. R., L.R.C.P. & S. Edin. (Shelf); MEADE, J., L.R.C.P. & S. Edin., L.F.P.S., Glas. (Bruff); FAWCETT, R. F. M., L.R.C.P. & S. Edin., L.F.P.S. Glas. (Toddington); THOMPSON, W. E. (Woburn Sands); SMITH, H. G. (Shrewsbury); SCOTT, A., M.B., C.M. Glas. (Uphall).

Vacancies.

For further information refer to the advertisement columns.

Ashton-under-Lyne District Infirmary.—Two Asst. H.S.'s. £200.
Barnsley, Beckett Hospital.—Jun. H.S. £180.
Barrow-in-Furness, North Lonsdale Hospital.—Second Res. H.S. £225.
Belfast Mater Infirmorum Hospital.—Hon. P.
Birkenhead Borough Hospital.—Sen. and Jun. H.S.'s. £200 and £170.
Birmingham and Midland Ear and Throat Hospital.—Asst. S.
Birmingham City Fever Hospital Service.—Asst. M.O. £350.
Birmingham City Hospital, Little Bromwich.—Med. Supt. £700.
Birmingham City Education Committee.—Aural S. £130.
Brighton, Royal Sussex County Hospital.—Hon. Asst. P.
Burnley County Borough.—Asst. M.O. £550.
Burnley, Victoria Hospital—H.S. £250.
Cardiff, Glan Ely Hospital.—Asst. Res. M.O. £400.
Cardiff, University College of South Wales and Monmouthshire.—Professor of Physiology. £900.
Carshalton, Surrey, Queen Mary's Hospital for Children.—Senior Asst. and Junior Asst. M.O.'s. £645 5*s.* and £515 6*s.* respectively.
Chingford Hospital for Infectious Diseases.—Res. M.O. £325.
Derby, Derbyshire Royal Infirmary.—Oph. H.S. £200.
Dorset County Council.—Asst. County M.O. £500.
Eastbourne Eye Infirmary.—Hon. Oph. S.
Glossop Dale Rural District Council.—Joint M.O.H. £600.
Great Northern Central Hospital, Holloway, N.—H.S. £150.
Hospital for Consumption and Diseases of the Chest, Brompton.—H.P. 30 guineas.
Huddersfield Royal Infirmary.—Asst. H.S. £150.
Hull City Education Committee.—Asst. Sch. M.O. £500.
Hull Royal Infirmary.—Senr. H.S. £200. Also Cas. H.S. £150. Also Asst. H.S. £250.
King's College Hospital, Denmark Hill, S.E.—Med. Out-patients' O. and Surg. Out-patients' O. £250.
Leeds University.—Demonstrator in Exp. Phys. £250.
Leeds Public Dispensary.—Res. M.O. £200.
Leicester Royal Infirmary.—Hon. Asst. P.
Liverpool City and Port.—Asst. Port M.O. £650.
Liverpool, David Lewis Northern Hospital.—Two H.P.'s and One H.S. £150 each.
London Hospital, Whitechapel, E.—Surgical Registrar. £365. Also Medical Registrar. £365.
London Temperance Hospital, Hampstead-road, N.W.—Cas. O. £120.
Loughborough and District General Hospital and Dispensary.—Res. H.S. £200.
Macclesfield, Cheshire County Asylum, Parkside.—Asst. M.O. £350.
Maidstone, Kent County Ophthalmic Hospital.—H.S. £250.
Manchester, Ancoats Hospital.—H.S. £100. Also Res. S.O. £200.
Manchester County Asylum, Prestwich.—Asst. M.O. £450.
Manchester Royal Eye Hospital.—Jun. H.S. £120.
Manchester Royal Infirmary.—Second H.S. to Special Dept. £25 first six months and £50 second.
Manchester, St. Mary's Hospitals for Women and Children.—Hon. Asst. P.
Margate, Princess Mary's Hospital for Children, Cliftonville.—Junior Asst. M.O. £579 14*s.*
Metropolitan Asylums Board.—Junr. Asst. M.O.'s in Mental Hosp. Service. £422.
Middlesbrough, North Riding Infirmary.—H.S. £200.
Mothers Hospital, 153-163, Lower Clapton-road, Hackney, E.—Res. M.O.
National Hospital for Diseases of the Heart, Westmoreland-street, W.—Hon. Asst. P.
Newark Hospital and Dispensary.—Res. H.S. £200.
Newcastle-upon-Tyne, Royal Victoria Infirmary.—Two Hon. Asst. S.'s, two Hon. Assts., and Hon. Surg. Registrar. Also H.P.'s, H.S.'s, and two Accident-room H.S.'s. £50 each, except H.S. to Out-patient Dressing Dept., which is £100. Also Refractionist. £100.
Norwich, Norfolk and Norwich Hospital.—Cas. O. £200.
Paddington Green Children's Hospital, London, W.—S. and P.'s. Also H.P. and H.S. £150 each.
Poplar Hospital for Accidents, Poplar, E.—Asst. Res. S. £120.
Portsmouth County Borough.—Asst. Tuberc. O. £500.
Queen Mary's Hospital for East End, Stratford, E.—H.P.
Reading, Royal Berks Hospital.—Senr. Res. M.O. £350.
Roll of Honour Hospital for Children, 688, Harrow-road, W.—Hon. Asst. P. and H.S. £40.
Royal College of Surgeons of England.—Examiners.
Royal Free Hospital, Gray's Inn-road, W.C.—Clin. Assts.
Salford Royal Hospital.—H.S. £150.
Sheffield Royal Infirmary.—Two H.S's, one Ear, Nose, and Throat H.S. £150.
Shoreditch Hospital, 204, Hoxton-street.—Res. Asst. M.O. £300.
South London Hospital for Women, South Side, Clapham Common, S.W.—Female H.S. £100.
Stamford, Rutland, and General Infirmary, Stamford.—H.S. £200.
Stoke-on-Trent, North Staffordshire Infirmary.—H.S. £200.
Straits Settlements and Federated Malay States.—Thirty-three M.O.'s. $440 per month.
Surrey, Royal Hospital, Richmond.—H.S. £150.
Sutton, Surrey, The Downs Sanatorium.—Senior Asst. M.O. £645 5*s.*
Swansea General and Eye Hospital.—Jun. H.S. £200. Also H.S.
Ventnor, Isle of Wight, Royal National Hospital for Consumption and Diseases of the Chest.—Asst. Res. M.O. £300.
Wakefield Clayton Hospital.—Junr. H.S. £200.
West London Hospital, Hammersmith, W.—Asst. Anæsth.
West Riding County Council.—Sch. Med. Inspec. £500.
Worcester County and City Mental Hospital, Powick.—Jun. Asst. M.O. £300. Also Deputy Supt. £450.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Melksham and at Youlgreave.

Births, Marriages, and Deaths.

BIRTHS.

AITKEN.—On March 28th, at Park-street, W., the wife of D. McCrae Aitken, F.R.C.S., of a son.

ANDERSON.—On April 5th, at "Remony," Chislehurst, the wife of C. E. Anderson, M.R.C.S., of a son.

BURKE.—On March 29th, at Central Nursing Home, Dundee, to the wife of E. T. Burke, D.S.O., M.B., Ch.B.—a son.

GARLAND COLLINS.—On March 31st, at Carlton Lodge, Snaresbrook, Essex, the wife of F. Garland Collins, Major (late R.A.M.C.), M.R.C.S., L.R.C.P. Lond., D.P.H., of a son.

JONES.—On March 28th, at Coleford House, Coleford, near Bath, Somerset, the wife of Philip T. Jones, M.R.C.S., L.R.C.P., of a daughter.

MOBERLY.—On March 28th, at Chudleigh, Ewell-road, Surbiton, Surrey, the wife of Alan V. Moberly, M.R.C.S., L.R.C.P., of a daughter.

NATTRASS.—On March 31st, at 11, Archbold-terrace, Jesmond, Newcastle-upon-Tyne, the wife of F. J. Nattrass, M.D., of a son.

PEACHELL.—On April 3rd, at Herrison, Dorchester, the wife of Dr. G. E. Peachell, of a son.

RIDDICK.—On March 29th, at Sialkot, Punjab, India, the wife of Lieutenant-Colonel G. B. Riddick, R.A.M.C., of a son.

SMITH.—On April 3rd, at 75, Broad-street, Barry, Glam., the wife of Mr. R. Eccles-Smith, O.B.E., M.B., F.R.C.S. Edin., of a son.

TIRARD.—On March 31st, at Uttoxeter New-road, Derby, the wife of N. S. Tirard, M.B., of a son.

TROTTER.—On April 2nd, at Claremont-terrace, Glasgow, W., Dr. Margaret Trotter, wife of Dr. G. Clark Trotter, of a daughter.

MARRIAGES.

RITCHIE—CHALMERS—On April 3rd, at Mabelbank, Broughty Ferry, W., Douglas David Ritchie, M.D., to Florence Margaret, daughter of Mr. and Mrs. Wm. Chalmers.

ROBEY—CECIL.—On March 31st, at St. Jude's Church, Southsea, Harry Webb Robey, L.D.S. Eng., to Mabel, third daughter of Mr. and Mrs. C. W. Cecil, of Southsea.

DEATHS.

ROPER.—On April 3rd, at "Colby," Lewisham-hill, S.E., Dr. Arthur Roper, in his 82nd year.

SCATTERGOOD.—On March 29th, at Highfield House, Menston-in-Wharfedale, Oliver Scattergood, M.A., M.B Oxon., D.P.H. Cantab., M.R.C.S., in his 64th year.

WILLS.—On March 21st, at Farnsfield, Notts, Charles Wills, M.R.C.S., L.S.A., aged 76.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

BOOKS, ETC., RECEIVED.

LAURIE, T. WERNER, London.
The Menace of Spiritualism. By E. O'Donnell. With a Foreword by Father Vaughan, S.J. Pp. 216. 5*s.*
Woman's Wild Oats. Essays on the Refixing of Moral Standards. By C. O. Hartley. Pp. 256. 6*s.*

MALOINE ET FILS, Paris.
L'Hérédité Romantique dans la Littérature Contemporaine. Par L. Estève. 2nd ed. Pp. 196. 5 fr.

SOCIETY FOR PROMOTING CHRISTIAN KNOWLEDGE, London.
Moses the Founder of Preventive Medicine. By P. Wood, Captain, R.A.M.C. Pp. 116. 4*s.*

SWARTHMORE PRESS, Oxford-street, London.
The Misadventures of Athelstan Digby. By W. F. Harvey. Pp. 191. 6*s.*

THIEME, G., Leipzig.
Die Geschlechtskrankheiten. Ihr Wesen, ihre Erkennung und Behandlung. Von Prof. Dr. K. Zieler. Pp. 182.
Das Hungerödem. Von Dr. C. Maase und Priv. Doz. Dr. H. Zondek. Pp. 135.

Notes, Short Comments, and Answers to Correspondents.

COLONIAL HEALTH REPORTS.

Jamaica.

IN a report by Mr. Robert Johnstone, acting Colonial Secretary, on the Blue-book for 1918–19, the latest estimate of the population is given as 895,578. The birth-rate in the year ended Dec. 31st, 1918, was 34·1 and the death-rate 33 per 1000. Of the births registered 68·6 per 100 were illegitimate, as compared with 67·7 in the previous year, which was the highest island rate recorded since the introduction of compulsory registration in 1878.

During the last quarter of 1918 influenza and pneumonia visited Jamaica and spread swiftly, the epidemic claiming a heavy toll in every parish, with the exception of Port Royal. It reached the greatest intensity about the middle of the quarter and then began gradually to subside. 5002 deaths were registered as having been caused by influenza and 547 from pneumonia, but it is probable that a larger number of deaths actually occurred from these causes, as a considerable proportion of the deaths registered in the island are not medically certified, and a large number of those that occurred during the prevalence of the epidemic were registered as having been caused merely by "fever and cold." Of the deaths caused by the epidemic 2702 were of persons of the ages of 20 to 45 years and 1150 of children under 5 years of age. Yaws is still very prevalent throughout the island. Venereal diseases are also extensively prevalent, and a new law has been passed providing for their compulsory treatment. 2797 cases of malaria were admitted to the hospitals. The number of cases reported during the year as "vomiting sickness" was 257, of which 242 were found to be instances of ackee poisoning. In the other 15 cases the true causes of death were found by the Government bacteriologist to be as follows, viz.: cerebral malaria, 8; gastritis, 2; malaria and ackee, 1; ptomaine poisoning, 1; fish poisoning, 1; nephritis, 1; convulsions, 1.

The total number of cases of all kinds admitted to public general hospitals during the year under review was 21,100, and amongst these there were 1165 deaths. In addition, 3800 indoor and 16,106 outdoor patients were treated in the Kingston Hospital. The number who attended the evening clinics in connexion with the treatment of cases of venereal disease was 2731, and the number of attendances was 9909. 17,153 prescriptions were made up and 1598 intravenous injections were administered. There were 113 patients in the Lepers' Home on March 31st, 1918, and 20 were admitted during the year, while in the same period 1 absconded and 16 died.

Grenada.

The estimated population at Dec. 31st, 1918, was 73,881. The birth-rate for the year was 34·66 and the death-rate 17·08 per 1000. The mortality among children under 2 years was 38·4 per cent. of the total of all deaths.

The public health of the colony was reported by the colonial surgeon to be on the whole satisfactory. The year was marked by the adoption of vigorous measures for the eradication of the loathsome diseases of syphilis and yaws. It is stated in connexion with the treatment of venereal disease by injections of novarsenobillon that patients submitted willingly and latterly came forward voluntarily asking for injections. The cases of venereal disease and syphilis treated amounted to 1579, of which 220 were discharged as cured. The kindred complaint of yaws was also attacked by an intensive treatment with novarsenobillon. "It is said the disease in its worst forms succumbs in a short time to the effects of this drug. The results are reported to be so encouraging as to hold out every hope that in a comparatively short period the disease will practically cease to exist in Grenada."

The acting Colonial Secretary (Mr. E. D. Laborde) adds, in his review of the Blue-book for 1918–19: "The colony can be described as an extremely healthy one for Europeans as well as for those born and bred in these parts. The climate is mild, and in the dry season is salubrious and pleasant. This period usually lasts from January to the end of May, when the rains commence. The latter part of the year is sometimes damp and, as a rule, hot. Daylight never exceeds 13 hours, and there is not more than an hour's difference between the longest and the shortest day. The island is south of the hurricane zone, and has been, fortunately, free from any cataclysm or seismic disturbance. The last earthquake of any severity occurred in 1888." The temperature in the shade varied in 1918 from 69° to 90° F. The rainfall was 81·40 inches, 3·77 more than the average in the three preceding years.

LUNATIC ASYLUMS IN BENGAL, 1918.

THE average population of the lunatic asylums in Bengal during 1918 was 1079, the admissions and readmissions numbering 334, an increase of 50 over those of the previous year. The daily sick averaged 87·4 per 1000, and the deaths numbered 104, or 9·63 per cent., an increase over the ratio for 1917, which was 7·91; 29 of these deaths occurred amongst the new admissions, mostly attributable to their miserable state of health on arrival at the asylums. The discharges numbered 319, of whom 151 (or 13·99 per cent. of the total strength) were cured, 28 improved, 97 transferred, and 1 escaped. No details are given as to the health of the asylum inmates, though it is stated that the year was particularly unhealthy. There were 104 deaths (96·3 per 1000), compared with 79·1 per 1000 in the previons year; tuberculosis accounted for 35. Influenza affected both the Berhampore and Dacca Asylums, where there were respectively 45 and 46 cases, but with only 2 deaths in the former and none in the latter asylum. Colonel J. K. Close, I.M.S., states that a new hospital is required at the Berhampore Asylum, the building at present used being a very old barrack, quite unsuitable for a hospital.

SANITATION IN INDIAN FACTORIES.

FROM the report on the working of the Indian Factories Act in Bengal, Bihar and Orissa, and Assam for 1918 we learn that water-supply and ventilation are generally satisfactory and the sanitary arrangements fairly adequate. The septic tank system is in process of welcome installation, and there will soon be very few of the large textile factories in which the old insanitary hand service is retained. Good filtered water-supplies are generally provided. Patterson gravity filters have been installed at a cost of Rs. 125,000, supplying 20,000 gallons per hour to the Kelvin and Empire Jute Mills, the adjoining coolie lines and bazars, and thereby benefiting some 20,000 people; a similar installation, with a capacity of 12,000 gallons per hour, has been completed for the Kinnison Mills at a cost of Rs. 50,000. The housing and general welfare of the factory operatives is receiving increased attention, and considerable sums have already been expended on improvements in the native villages, or *bustees*; the need for this is urgent. At a recent inspection of coolie lines attached to a jute mill it was found that on an average ten persons were living in each room having an area of 10 × 14 ft. The influenza visitation rapidly spread among the mill operatives around Calcutta, but was fortunately of short duration, "due largely to the special measures taken by mill managers to suppress the epidemic." Medicines and medical attendance were given freely. An effective campaign against hookworm disease has been initiated by the Governor of the Province, with the coöperation of all the leading industries, and the jute mill companies have undertaken to provide 2000 rupees annually towards research work in connexion with the tropical diseases that interfere with the regular working of the labour force in factories.

Mr. R. P. Adams, O.B.E., Chief Inspector, who presents this report, states that during the last three years of the war industrial development has made considerable progress in these provinces, notwithstanding the difficulties in obtaining structural material and machinery from England and America. Some new industries were started and others greatly expanded to meet the conditions caused by the war. The stimulus arising from these conditions has caused home manufacturers to consider the advisability of opening factories in India connected with their home concerns, and a big development may be expected in this direction.

HEALTH OF BOMBAY JAILS, 1918.

THE chief causes of sickness and death in the jails of Bombay Presidency during 1918 were influenza and its resulting pneumonia. For the total jail population (average daily number of prisoners) of 12,095 the death ratio was 58·5 per 1000, as compared with 18·7 per 1000 in 1917: but if the influenza ratio of 36 per 1000 be deducted, the remaining ratio of 22·5 is but slightly in excess of that for the preceding year. The general death-rate for the population of Bombay Presidency is stated to have been 88·05 in 1918, compared with 40·76 in 1917. Several prisons were overcrowded throughout the year, relief being afforded by the use of tents, verandahs, and worksheds, or by transfers to other prisons. Improvements were made in the dietaries, and warm clothing issued when considered necessary. Not a single case of cholera occurred, and only 4 cases of plague; dysentery caused 307 admissions to hospital, a ratio of 31·8 per 1000 (with 10 deaths), compared with 418 admissions (44·6 per 1000) and 11 deaths in 1917. There were 184·2 admissions and 0·7 deaths per 1000 from malarial fevers, compared with 186·3 and 0·9 in 1917. Pulmonary tubercle showed an increased number of admissions (63, compared with 48 in 1917), but the deaths were 19 only, compared with 24. It is stated that at least 38 of these cases of tubercle contracted the disease outside the jail. At the "Borstal" juvenile jail, Dharwar, the boys are taught carpentering and other trades. They take a pride in their gymnastics and drill and have started cricket.

Colonel H. E. Banatwala, C.S.I., I.M.S. (retired), who presents the report, states that out of a total of 20,183 prisoners discharged from the Bombay jails during the year 55·3 per cent. gained weight, 21·2 per cent. lost weight, and 21·6 per cent. remained stationary.

BRITISH OPHTHALMIC HOSPITAL, JERUSALEM.

THE work of this hospital is increasingly heavy and the administration is urging the Order of St. John to extend its activities in combating the ravages of eye disease in the Holy Land. Captain Charles R. B. Eyre, R.A.M.C., has been appointed assistant surgeon to this hospital.

CHLOROFORM BY THE OPEN METHOD.

A CORRESPONDENT, who in 1902 was advocating the open method of chloroform administration, thinks that it is time for us to confess that this is "universally accepted as the best mode." In a further communication he adds that "an editorial comment made 17 years ago has been proved to be utterly fallacious." Follows the quotation "*Audi alteram partem.*" In 1902 we were comparing this method with more accurate procedures to the detriment of the former, and the premiss on which we are asked to plead guilty of having been unintelligent in years gone by—quite an easy thing to apologise for—is unsound. It is not universally accepted that what is called the "open" method is the best. By the open method our correspondent means, we presume, that which is conducted by means of a drop-bottle and a Skinner's or similar mask. Now we believe that fewer anæsthetists to-day employ this method in preference to giving chloroform from a Junker's or Shipway's or Vernon Harcourt's apparatus than was the case in 1902. Moreover, when experts employ the open method they do so with confidence because of the knowledge gained from the employment of these percentage-dose machines. Further, there is scarcely one of them but would recommend the machine rather than the drop-bottle for general use by the student or the comparatively inexperienced administrator. Actually, the practice of to-day tends to eliminate chloroform more and more, particularly in the induction of anæsthesia. We believe that our views of 1902 are upheld by the practice of 1920.

GERMAN MEDICAL PRACTICE IN THE ARGENTINE.

IN the *Wien. klin. Wochenschr.* for March 11th Dr. J. Brinkmann, director of the German Hospital at Buenos Aires, seeks to stem the tide of German and Austrian emigration to South America in search of medical practice. There are, he says, at most 60,000 German-speaking people in Buenos Aires and its environs, many of whom prefer to call in Argentine doctors, whose seven-year training is, in many respects, he holds, better than that obtained in Germany and Austria. In the larger towns there are already a sufficiency of German doctors, and in country districts to gain a living is hard and precarious. The conditions in other South American republics are, he concludes, even less favourable. For many years past no foreigner has been able to obtain a practice in Bolivia, Paraguay, Chili, or Uruguay.

AEROPLANE TRAVEL.

LONDON to Brussels in 2½ hours; London to Paris in 3 hours. This announcement should make the eyes open wide of old travellers. The price is 15 guineas per passenger. Other regular routes are from Liverpool to London, and Southampton and Plymouth to London. The Central Aircraft Company, Ltd., of 179, High-road, Kilburn, N.W., invite intending passengers to telephone their requirements to Kilburn or to their aerodrome at Northolt, Middlesex, which is within a few minutes' walk of Northolt Junction, reached from Paddington or Marylebone Stations, or from Ruislip Station, reached from Baker Street Station. The cheapest flight is over Harrow for £1 2*s.* 6*d.*, and over the West-End and City for £2 3*s.* 6*d.* There is also a circuit of London for £6 10*s.* and a tour round London for £17 10*s.*, and a flight up the Thames Valley for £12 10*s.* Flights around Kent cost £25; around South Wales, £40; over several cathedral cities, £30; and £10 per hour is charged to follow racing in the Solent. More ambitious are the tour of the American front in four days for £120 and of the Belgian battlefields in three days for £60.

MALARIA IN CILICIA.

THE recent Armenian massacres in Cilicia, and especially at Marasch, are of special medical interest, as they have occurred in a region in which there is a peculiarly virulent malaria, which attacked the German troops in 1916 most severely. The story, recounted in the *Archiv für Schiffs- und Tropen-Hygiene* for December by Dr. Viktor Schilling, reminds us of the experiences of our own troops in Salonica. Cilicia is a mountainous province, with the two great mountain ranges, the Taurus to the north-west, the Amanus to the south-east, each with a direction through the country from the north-east to the south-west. Between them lies a high plateau, dry and scorchingly hot in summer, and becoming a marsh in winter. In summer the rivers disappear into small bush-covered streams, often merely a string of sheltered pools giving anopheles mosquitoes the best breeding-grounds possible. The high-lying valleys are no health resorts, but, being hot and swampy, are themselves full of mosquitoes infected by the malaria-ridden inhabitants, and are more dangerous to travellers than even the plains below. Dr. Schilling is of opinion that every one of the inhabitants has had malaria. German troops suffered severely after a 10 to 14 days' incubation, with severe pyrexia, vomiting, and diarrhœa, diagnosed sometimes as cholera, typhus, typhoid, or dysentery. Cases died of coma in four days; other cases were overcome and had no pyrexia. Intravenous quinine alone did good. Cases of blackwater fever were heard of. The disease was so deadly and so resistant to treatment that it was supposed the quinine was in fault, but the suspicion was undeserved. Mosquito nets and antimalarial measures other than quinine administration (15 gr. twice a week) could not be undertaken. Dr. Schilling thinks prophylactic quinine did diminish the attacks, lessened the mortality, delayed relapses, and enabled those who passed quickly through the danger area to recover more quickly from their attacks, but it was less successful than usual, because the infections were so numerous. The malaria was of very virulent type and unusually resistant to quinine; this applies to both benign and malignant tertian. Dr. Schilling found six rings in one red blood corpuscle. Cases which had no quinine prophylaxis were just as obstinate as the others. Near Aleppo of 46,000 blood examinations 11,000 showed malarial parasites, and mixed infections were particularly common. Culex and stegomyia were common in Aleppo, but anopheles were not found.

SWISS MEDICAL STUDENTS.

DURING the winter session 1919-20 a total of 1817 students (1581 men and 236 women) attended courses in the medical faculties of the five Swiss universities. Of this total 532 (424 men and 108 women) were foreigners. The attendance was distributed between the universities thus: Basle, 265; Berne, 388; Geneva, 408 (including 66 dental students); Lausanne, 270; Zurich, 486 (excluding 117 dental students).

THE late Ernst Haeckel's house in Jena is being rebuilt as a memorial institute for embryological research.

Communications, Letters, &c., to the Editor have been received from—

A.—Dr. Ayres, Liverpool; A. F. T.

B.—Dr. J. Blomfield, Lond.; Dr. R. B. Blair, Hull; Bombay Medical Council, Registrar of; Dr. L. S. Burrell, Lond.; Dr. A. Balfour, Lond.; Prof. W. B. Bell, Lond.; Prof. A. E. Boycott, Radlett; Mr. J. I. Brownlee, Anderson, South Carolina.

C.—Dr. H. L. Cronk, Liskeard; Dr. H. P. Cholmeley, Forest Row; Dr. F. G. Collins, Lond.; Chicago School of Sanitary Instruction; Canadian Medical Association, Vancouver; Mr. F. H. Carr, Lond.; Dr. E. P. Cumberbatch, Lond.

D.—Dr. D. Donegal, Manchester; Dr. T. B. Davies, Eastbourne; Dr. H. Drinkwater, Wrexham; Dr. V. Dickinson, Lond.; Dr. W. H. Dickinson, Newcastle-upon-Tyne; Dr. H. H. Dale, Lond.; Decimal Association, Lond.

E.—Dr. J. Eyre, Lond.; Dr. T. R. Elliott, Lond.

F.—Dr. A. W. Fuller, Lond.; Mr. T. T. Frankenberg, Columbus, Ohio; Federation of Medical and Allied Societies, Lond., General Sec. of; Dr. J. G. Forbes, Lond.

G.—Mr. E. W. H. Groves, Bristol; Dr. R. P. Garrow, Lond.; Dr. S. R. Gloyne, Lond.; Miss E. M. Geraghty, New Haven; Great Northern Central Hospital, Lond.

H.—Dr. A. J. Hall, Sheffield; Mr. N. Hobhouse, Lond.; Mr. W. Hampson, Lond.; Mr. A. K. Hurry, Dublin; Dr. C. Higgens, Lond.; Dr. Houdart, Bel-Air; Mr. F. Hooper, Lond.; Dr. J. A. Hadfield, Lond.; Mr. F. A. Hocking, Lond.; Major W. E. Home, R.A.M.C.; Harveian Society, Lond., Hon. Sec. of.

I.—Insurance Committee for the County of London.

J.—Dr. J. H. Jones, Standford Dingley; Johns Hopkins Press, Baltimore.

K.—King Edward's Hospital Fund for London, Hon. Secs. of.

L.—Dr. J. N. Leitch, Sutton; Dr. C. Lillingston, Gorleston; Dr. J. C. G. Ledingham, Lond.; Leicester Medical Society, Hon. Sec. of; London School of Economics, Librarian of.

M.—Ministry of Health, Lond.; Dr. E. D. Macnamara, Lond.; Dr. J. E. R. McDonagh, Lond.; Minnesota State Pharmaceutical Association, Minneapolis; Dr. H. W. L. Molesworth, Lond.

N.—Sir Arthur Newsholme, Baltimore; National Anæsthesia Research Society, Avon Lake; New York Academy of Medicine.

Q.—Queen Charlotte's Lying-in Hospital, Lond., Sec. of.

R.—Royal Society, Lond.; Royal Mail Steam Packet Co., Lond.; Dr. J. D. Rolleston, Lond.; Dr. R. G. Rous, Lond.; Dr. E. Roberts, Cardiff; Royal Medical Benevolent Fund, Lond., Sec. of; Dr. J. H. Ray, Manchester.

S.—Dr. A. G. Shera, Eastbourne; Dr. F. A. Southam, Manchester; School of Physic in Ireland, Dublin, Registrar of; Messrs. Sells, Ltd., Lond.; Scottish Board of Health, Edinburgh; Prof. W. Stirling, Manchester; Dr. M. C. Stopes, Leatherhead; Messrs. Schenker and Co., Lond.; Mr. R. E. Smith, Barry; Dr. H. A. Smith, Lond.

T.—Dr. J. Taylor, Lond.; Dr. F. E. Tylecote, Manchester; Sir W. Thorburn, Manchester; Dr. A. H. Thompson, Lond.

U.—University of Liverpool, Registrar of.

W.—Dr. J. D. Wynne, Norwich; Lieut.-Col. J. T. Woolrych-Perowne, Lond.; Capt. C. C. Wicks, R.A.M.C.; Dr. W. H. Willcox, Lond.; Messrs. Watson and Sons, Lond.; Dr. T. A. Williams, Washington; Whitefriars Press, Lond.; Dr. L. E. Williams, Liverpool; Dr. H. Woods, Lond.

Y.—Yorkshire Summer School of Geography, Whitby.

Communications relating to editorial business should be addressed exclusively to the Editor of THE LANCET, 423, Strand, W.C. 2.